



Service Manual

• KE-4343



ORDER NO.
CRT 1143

CASSETTE CAR STEREO WITH FM/AM ELECTRONIC TUNER

KE-4343

UC

KE-3525

US

KE-3333

UC

KE-2323

UC

Note:

- See the separate manual CX-166 (CRT1094) for the cassette mechanism description.

CONTENTS

1. SPECIFICATIONS	1	11. CONNECTION DIAGRAM (KE-3525, KE-3333)	28
2. USING THE RADIO	1	12. SCHEMATIC CIRCUIT DIAGRAM (KE-2323)	32
3. SETTING THE TIME	2	13. CONNECTION DIAGRAM (KE-2323)	36
4. USING THE TAPE DECK	3	14. EXPLODED VIEW	40
5. CONNECTIONS	4	15. CASSETTE MECHANISM ASSY EXPLODED VIEW	44
6. DISASSEMBLY	5	16. ELECTRICAL PARTS LIST	47
7. ADJUSTMENT	7	17. PACKING METHOD	51
8. SCHEMATIC CIRCUIT DIAGRAM (KE-4343)	16		
9. CONNECTION DIAGRAM (KE-4343)	20		
10. SCHEMATIC CIRCUIT DIAGRAM (KE-3525, KE-3333)	24		

- Dolby and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
- Noise Reduction System manufactured under license from Dolby Laboratories Licensing Corporation.

PIONEER ELECTRONIC CORPORATION

4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan

PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.

PIONEER ELECTRONICS OF CANADA, INC. 505 Cochrane Drive, Markham, Ontario L3R 8E3 Canada

PIONEER ELECTRONIC [EUROPE] N.V. Keetberglaan 1, 2740 Beveren, Belgium

PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911

1957
FK © NOV. 1987 Printed in Japan

1. SPECIFICATIONS

General

Power source 14.4 V DC (10.8 – 15.6 V allowable)
 Grounding system Negative type
 Max. current consumption
 (KE-4343, KE-3525, KE-3333) 2.5 A
 (KE-2323) 1.8 A
 Dimensions (chassis) 170(W) × 50(H) × 130(D) mm
 [6-3/4(W) × 2(H) × 5-1/8(D) in.]
 (nose) 105(W) × 42(H) × 36(D) mm
 [4-1/8(W) × 1-5/8(H) × 1-3/8(D) in.]
 Shaft interval 130 or 147 mm (5-1/8 or 5-3/4 in.)
 Weight 1.3 kg (2.9 lbs.)

Amplifier (KE-4343, KE-3525, KE-3333)

Continuous power output is 3.2 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.
 Maximum power output 8.5 W × 2/7 W × 4 (EIAJ)
 Load impedance 4 Ω (4 – 8 Ω allowable)
 Preout output level/Impedance 500 mV/100 Ω
 Tone controls (bass) ±10 dB (100 Hz)
 (treble) ±10 dB (10 kHz)
 Loudness contour +8 dB (100 Hz) (volume: –30 dB)

Amplifier (KE-2323)

Continuous power output is 3.2 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.
 Maximum power output 8.5 W × 2 (EIAJ)
 Load impedance 4 Ω (2 – 8 Ω allowable)
 Preout output level/Impedance (RCA) 500 mV/100 Ω
 Loudness contour +8 dB (100 Hz) (volume: –30 dB)

Tape player

Tape Compact cassette tape (C-30 – C-90)
 Tape speed 4.76 cm/sec. (+0.14 cm/sec., –0.05 cm/sec.)
 Fast forward/rewind time Approx. 100 sec. for C-60
 Wow & flutter 0.13% (WRMS)
 Frequency response 50 – 14,000 Hz (±3 dB)
 Stereo separation 45 dB
 Signal-to-noise ratio 52 dB (IHF-Anetwork)

FM tuner

Frequency range 87.9 – 107.9 MHz
 Usable sensitivity 12 dBf (1.1 μV/75 Ω, mono)
 50 dB quieting sensitivity 17 dBf (1.9 μV/75 Ω, mono)
 Signal-to-noise ratio 70 dB (IHF-A network)
 Distortion 0.3% (at 65 dBf, 1 kHz, stereo)
 Frequency response 50 – 15,000 Hz (±3 dB)
 Stereo separation 35 dB (at 65 dBf, 1 kHz)
 Selectivity 70 dB (2ACA) (±400 kHz)

AM tuner

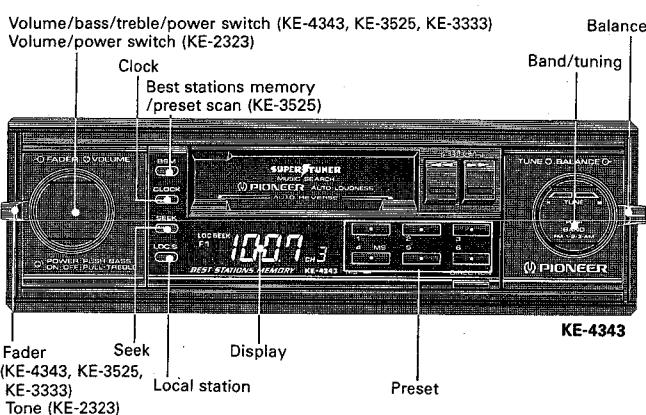
Frequency range 530 – 1,620 kHz
 Usable sensitivity 18 μV (25 dB) (S/N: 20 dB)
 Selectivity 50 dB (±10 kHz)

These specifications were determined and are presented in accordance with specification standards established by the Ad Hoc Committee of Car Stereo Manufacturers.

Note:

Specifications and the design are subject to possible modification without notice due to improvements.

2. USING THE RADIO



- Before attempting operation...
 - Set the fader control to the left horizontal. (KE-4343, KE-3525, KE-3333)
 - Since the set is designed preferentially for tape play, eject a cassette tape, if mounted, before operating the radio.
1. Turning the power switch to the right causes power to switch ON and the current frequency to appear on the display.
 2. Press the band switch to select the band.
 3. Press the seek button and the seek tuning indicator will be displayed.
 4. Turn the tuning knob to the left or right to tune in the desired frequency. (Turning to the right will increase the frequency.)
 5. Adjust the volume and balance.

KE-4343, KE-3333

6. Adjust the tone to the desired position. To adjust bass, turn the volume knob while pressing it. For treble, turn the volume knob after it has been pulled out until it clicks into place. Return the volume knob after adjusting the tone.

KE-2323

6. Adjust the tone.

● To enter a frequency into the preset memory...

7. Hold down one of the preset buttons (1 – 6) for approximately two seconds. The frequency is stored in memory (assigned to the preset button pressed) once the preset number stops flashing on the display.

Six FM1 frequencies, six FM2 frequencies, six FM3 frequencies and six AM frequencies can be entered.

● Auto-Loudness

When playing back a tape or listening to the radio at low volume, the low tone is automatically emphasized.

● Clock Switch

Each press causes the display to switch between clock and frequency.

● Best Stations Memory Button

Automatically tunes strong frequencies and assigns them to preset buttons 1 through 6 for one-touch automatic tuning. The best stations memory function is activated by pressing this button for approximately 2 seconds. The best stations memory function is indicated by —— flashing on the display, and this function can be canceled by pressing the band switch. Once frequencies have been assigned to the preset buttons, each one is tuned in and played for eight seconds. Finally the frequency assigned to preset button 1 is tuned in to complete the procedure.

- 6 best (strongest) frequencies are memorized in the 6 preset buttons in the order of their strength, the strongest one being assigned to preset button 1.
- The frequencies previously assigned to the preset buttons are retained when 6 frequencies cannot be located.
- The best stations memory is in operation while —— is flashing on the display.

● Local Station Switch

Pressing this switch increases the seek threshold level so that only relatively strong stations can be tuned in (local indicator will illuminate on the display). Local seek threshold level can be selected among four levels for FM and two levels for AM.

Holding this switch down for approximately 2 seconds and then turning the tuning knob to the right changes the display from L-1, L-2, L-3 to L-4. Turning the tuning knob to the left changes the display from L-4, L-3, L-2 to L-1. (L-1 and L-2 for AM.) The bigger the number, the higher the seek threshold becomes and only relatively strong stations can be tuned in.

● Fader Control (KE-4343, KE-3525, KE-3333)

This control is used to adjust the balance between the front and rear speakers when using a 4-speaker system. Turning the control upwards decreases the volume of the rear speakers, while turning it downwards decreases the volume of the front speakers. With 2-speaker systems, set this control to a horizontal position.

Seek Tuning

Press the seek button, and tuning to the next higher or lower broadcast on the band can be accomplished automatically by simply turning the tuning knob to the left or right. FM frequencies change in 0.2 MHz steps while those in the AM band change in 10 kHz steps.

Preset Tuning

Pressing the preset button instantly tunes in the frequency programmed in the memory for that button.

Manual Tuning

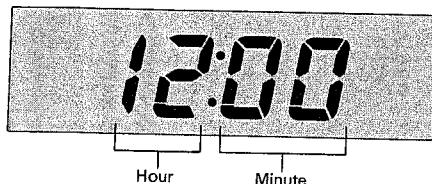
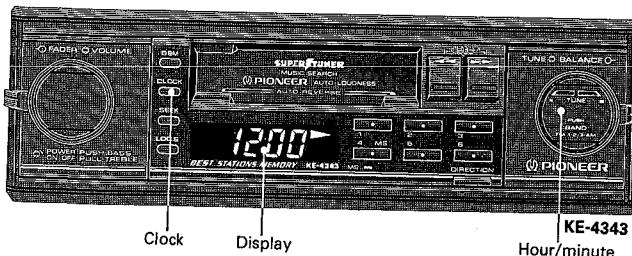
When manual tuning is employed, FM frequencies change in 0.2 MHz steps while AM frequencies change in 10 kHz steps.

1. Press the seek button and the seek tuning indicator will disappear from the display.
2. Change the frequency by turning the tuning knob to the left or right. Turning the knob once will change the frequency one step (see above). Holding the tuning knob in either direction will successively change the frequency at the prescribed step.

Preset Scan Tuning (KE-3525)

Pressing the preset scan button (CH indicator flashes) causes previously stored frequencies to be tuned in sequentially for eight seconds each. Press again when the desired frequency is tuned in to cancel preset scan tuning.

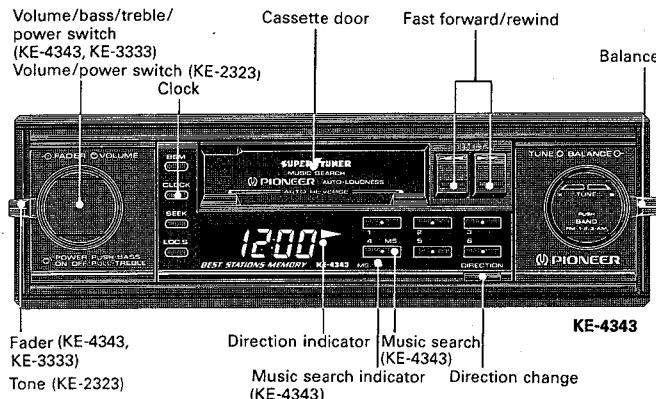
3. SETTING THE TIME



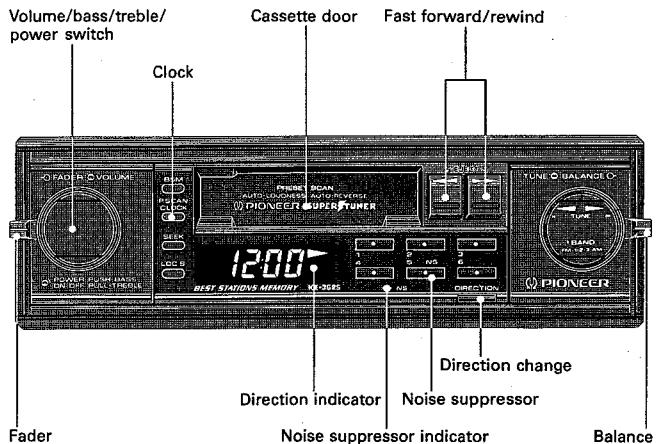
1. Press the clock switch to switch to the time display.
2. Each turn of the hour/minute control knob to the left while the clock button is depressed advances the hour setting one hour, while each turn to the right advances the minute setting one minute. Holding the control knob in either position results in high speed advance of the respective setting.

4. USING THE TAPE DECK

• KE-4343, KE-3333, KE-2323



• KE-3525



• Before attempting operation...

- Set the fader control to the left horizontal. (KE-4343, KE-3525, KE-3333)
- Turning the power switch to the right causes power to switch ON.
- Loading a cassette tape into the load slot causes playback to begin automatically.
- Adjust the volume and balance.

KE-4343, KE-3525, KE-3333

- Adjust the tone to the desired position. To adjust bass, turn the volume knob while pressing it. For treble, turn the volume knob after it has been pulled out until it clicks into place. Return the volume knob after adjusting the tone.

KE-2323

- Adjust the tone.
- When tape playback reaches the end of the tape, playback will automatically switch from the side being played to the opposite side (ie. Side A to Side B or vice versa) (Auto-reverse). To eject the tape during playback, simultaneously press the fast forward and rewind buttons.
- A loose or warped label on a cassette tape may interfere with the eject mechanism of the unit or cause the cassette to become jammed in the unit. Avoid using such tapes or remove such labels from the cassette before attempting use.
- Do not try to eject the cassette immediately after insertion, as it will cause malfunction. Wait a few seconds.
- Be sure to eject the tape when the vehicle's ignition is turned OFF. Leaving the tape in the unit can deform the pinch roller causing wow and flutter during tape playback.

• Fast Forward/Rewind

Since the transport can be in either direction, both the left and right high-speed tape transport buttons can be regarded as fast forward/rewind buttons.

For fast forward, press the high-speed tape transport button that corresponds to the direction that is shown by the direction indicator. When the end of the tape is reached, playback will automatically begin from the opposite side of the tape (Auto-reverse).

For rewind, press the button that is opposite that of the direction shown by the direction indicator. When the end of the tape is reached, playback will automatically begin from the beginning of the same side of the tape (Auto-replay).

Fast forward and rewind can be terminated by pressing the respective opposite high-speed tape transport button.

• Direction Change Button

This button is used to switch from one side of the tape to the other (from Side A to Side B or vice versa).

• Noise Suppressor Switch (KE-3525)

Press to reduce tape hiss.

Music Search (KE-4343)

• Returning to the beginning of selection A

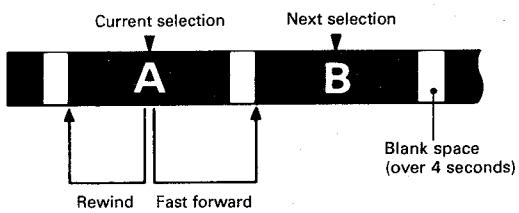
Press the music search button and then the high-speed tape transport button for the direction opposite that shown by the direction indicator. Playback will automatically start from the beginning of selection A.

• Moving from selection A to selection B

Press the music search button and then the high-speed tape transport button that corresponds to the direction shown by the direction indicator. Playback will automatically start from the beginning of selection B.

To enable regular fast forward/rewind operations, press the music search button again to turn the function OFF. The following errors will cause the music search function to operate improperly, even though the unit is not malfunctioning.

- Unrecorded "blank" portions between selections is less than 4 seconds → the blank portion cannot be detected by the unit.
- Pauses in recorded conversations are longer than 4 seconds → the unit reads these as blanks between selections.
- Portions are recorded at very low volume for more than 4 seconds → the unit reads these as blanks between selections.



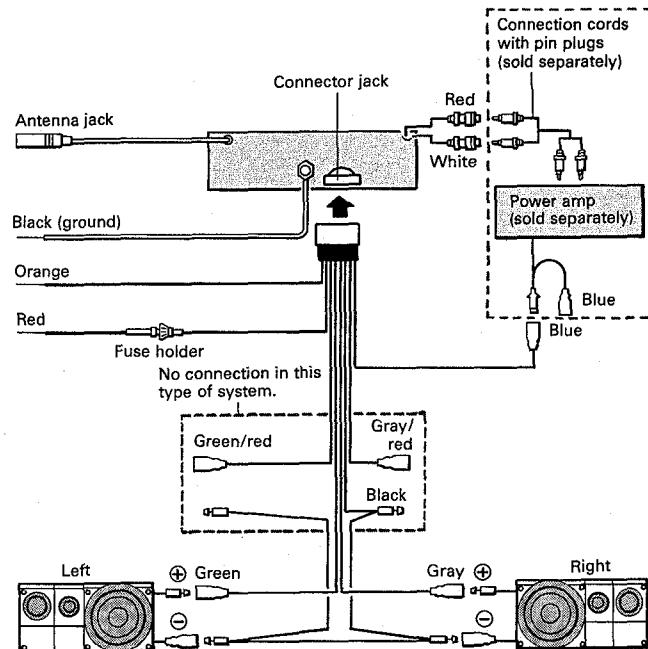
5. CONNECTIONS

Note:

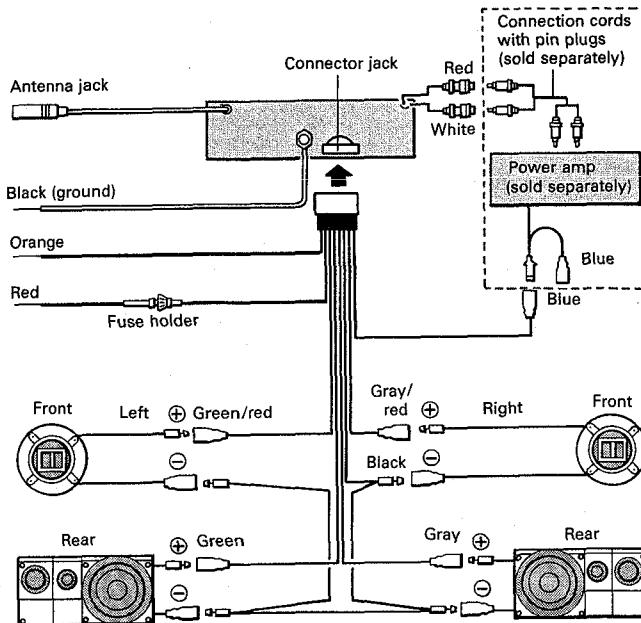
- To avoid shorts in the electrical system, be sure to disconnect the battery \ominus cable before beginning installation.
- Replace fuses only with the types stipulated on the fuse holder.
- Be sure to properly connect the color coded leads. Failure to do so can cause malfunctions.
- Cover unused terminals with tape to prevent electrical shorts.
(KE-4343, KE-3525, KE-3333)
- Refer to the power amp owner's manual when connecting a power amp (sold separately) to the pin jack. (KE-4343, KE-3525, KE-3333)

Black (ground)	To vehicle (metal) body.
Blue	System control/Auto-antenna relay control terminal (Max. 300 mA 12 V DC).
Orange	To terminal always supplied with power regardless of ignition switch position.
Red	To electric terminal controlled by ignition switch (12 V DC) ON/OFF.

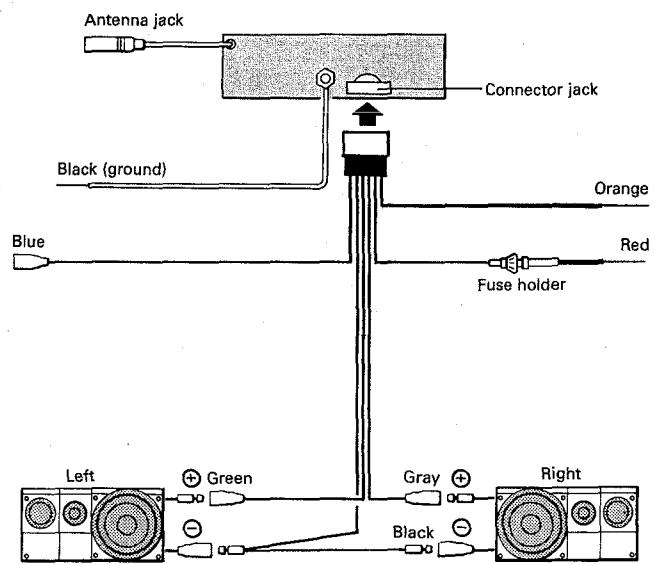
KE-4343, KE-3525, KE-3333 2-speaker system



KE-4343, KE-3525, KE-3333 4-speaker system



KE-2323



6. DISASSEMBLY

• Removing the Case

1. Remove the four screws, and then remove the case.

• Removing the Grille Assy

1. Press tabs at two locations indicated by arrows, and pull out the grille assy.

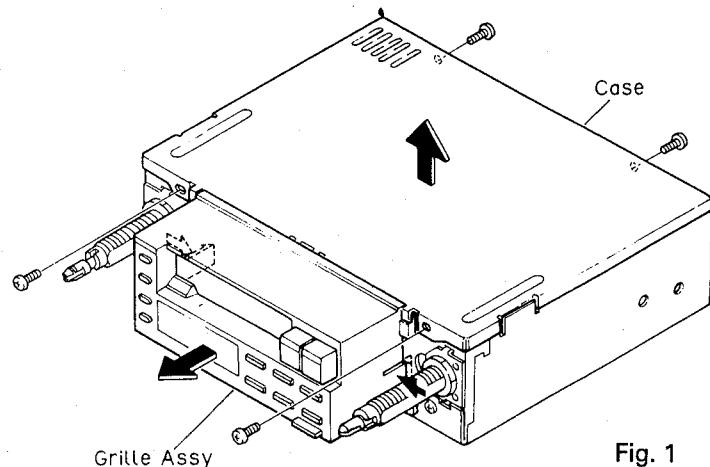


Fig. 1

• Removing the Cassette Mechanism Assy

1. Disconnect the two connectors.
2. Remove the four screws, and then remove the cassette mechanism assy.

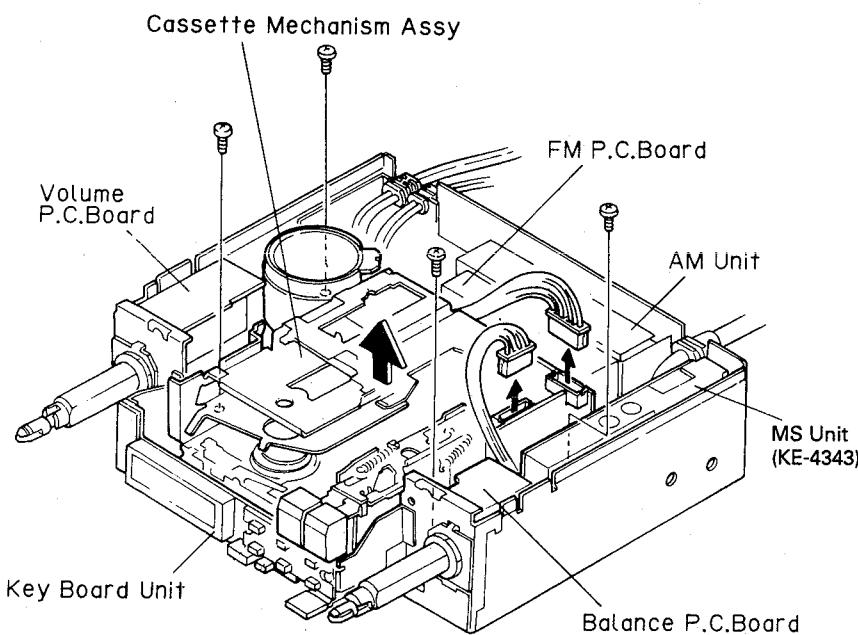


Fig. 2

• **Removing the Chassis Unit**

1. Remove the five screws.
2. Unbend tab until straight, and then remove the chassis unit.

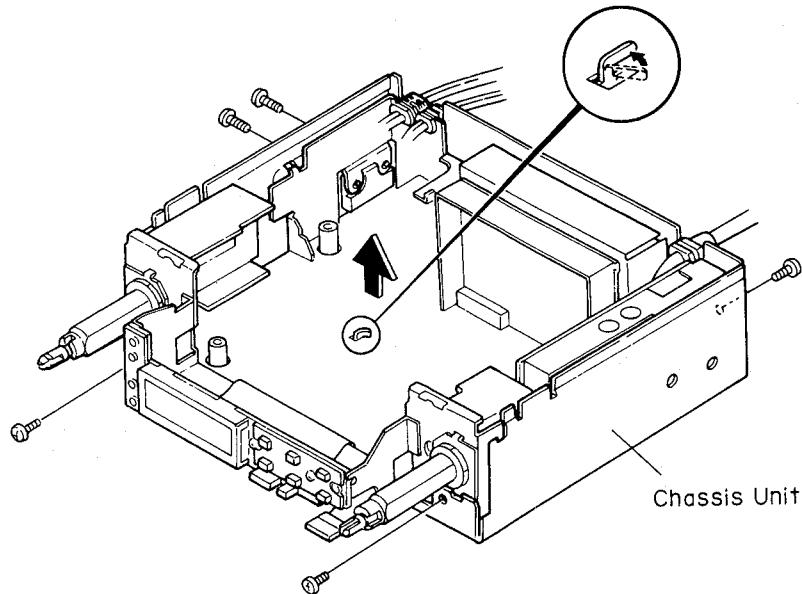


Fig. 3

• **Removing the AM Unit, FM P.C.Board and MS Unit**

1. Unbend tabs on back of each unit circuit board until straight, and pull out units as shown in illustration.

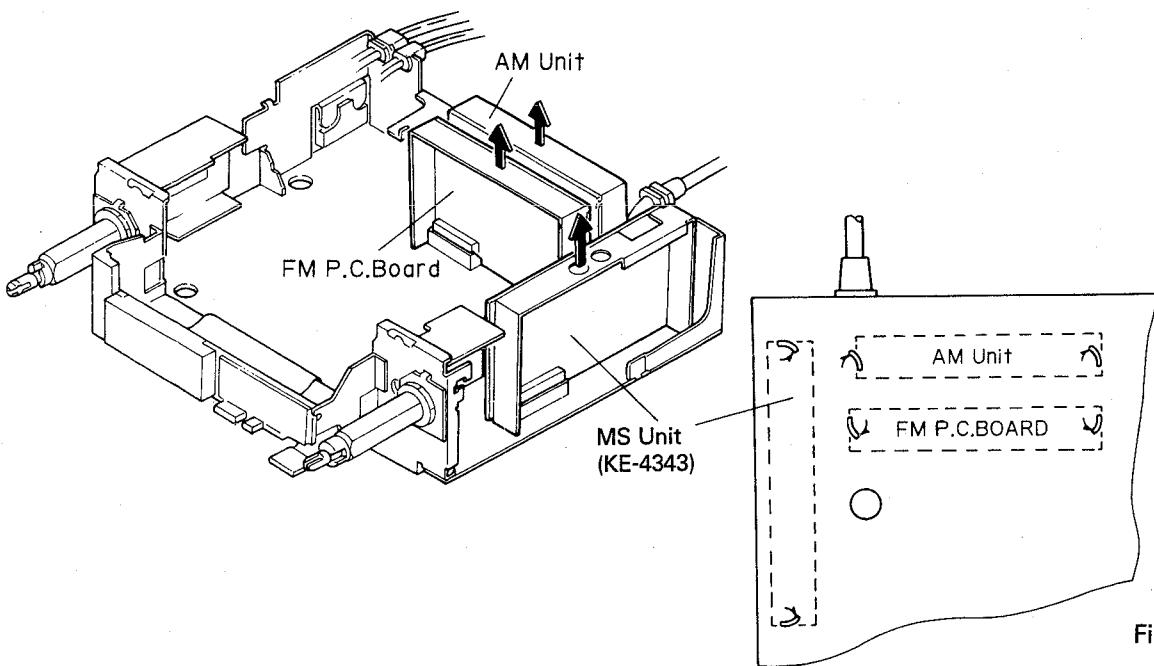


Fig. 4

7. ADJUSTMENT

- Connection Diagram

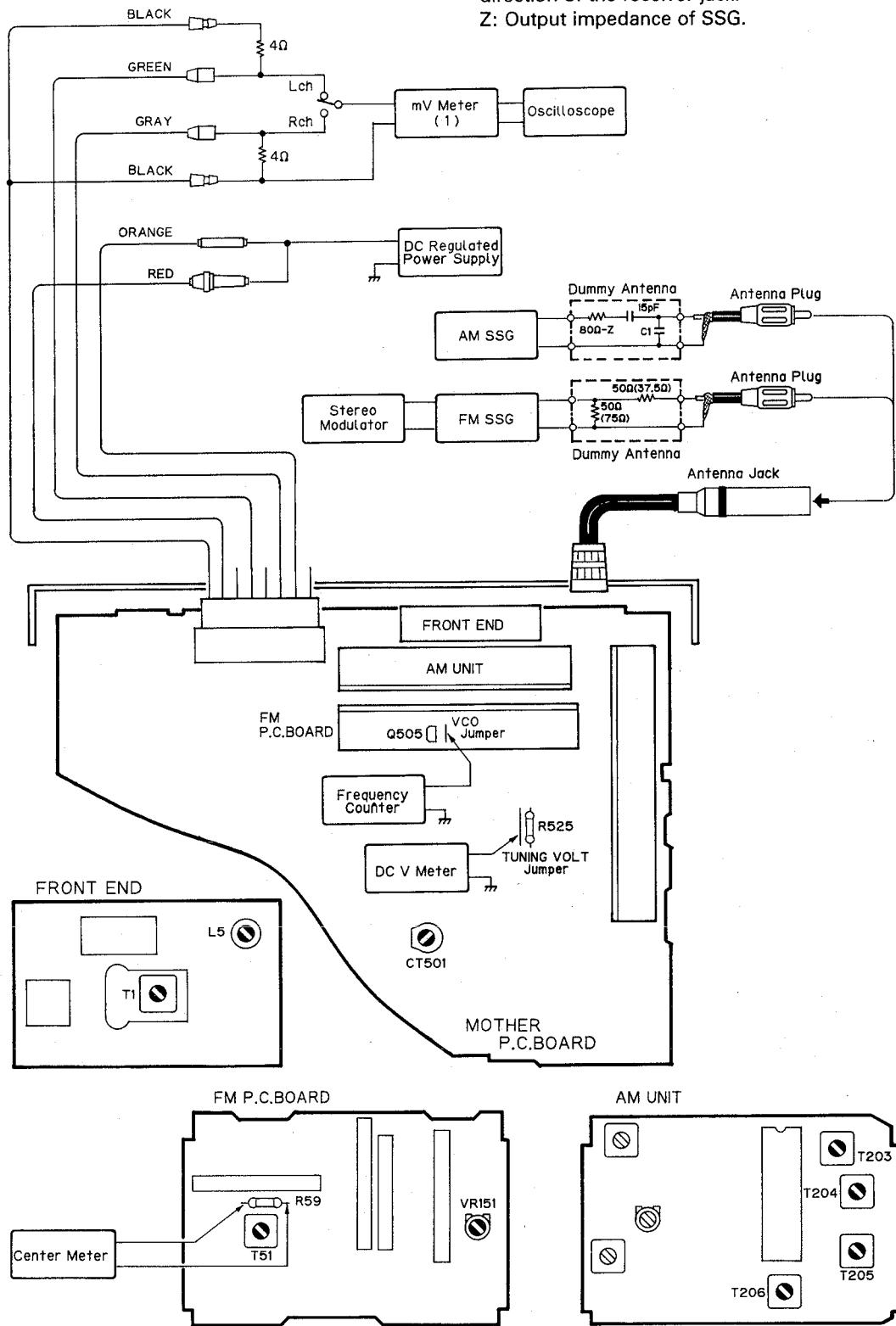


Fig. 5

7. 1 REFERENCE OSCILLATION FREQUENCY ADJUSTMENT

No.		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
1	Set the AM mode.	1,000	CT501	Frequency Counter: 11.71MHz ± 50Hz

7. 2 AM ADJUSTMENT

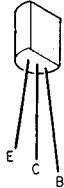
	No.	AM SSG(400Hz, 30%)		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (kHz)	Level (dB)			
Track-ing	1			530	—	Verify that DC V Meter is more than 2V.
	2			1,620	T203	DC V Meter:Less than 6V
	3	1,000	20	1,000	T204, T205, T206	mV Meter(1):Maximum

7. 3 FM ADJUSTMENT ※ Stereo MOD.: 1kHz, L+R = 90% , Pilot = 10%

	No.	FM SSG(400Hz, 100%)		Displayed Frequency (MHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (MHz)	Level (dB)			
IF	1	98.1	60	98.1	T51	Center Meter:0
Track-ing	1			107.9	L5	DC V Meter:Less than 7.4V
	2			87.9	—	DC V Meter:More than 0.7V
	3	98.1	5 — 10	98.1	T1	mV Meter(1):Maximum
Auto Level	1	98.1※	35	98.1	VR151	mV Meter(1):Separation 5dB

● ICs and Transistors

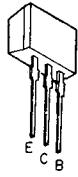
2SD667

2SC2026
2SC2498

2SA608SP
2SA1048
2SA1150
2SC1740S
2SC2458
2SC3113



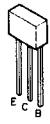
2SC3623A



2SD1859



2SC3311A



2SK435



2SA933S
2SC536SP
2SD1468S



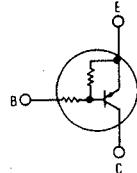
2SJ105



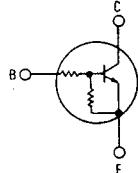
DTA114YS
DTC124ES
DTC143TS



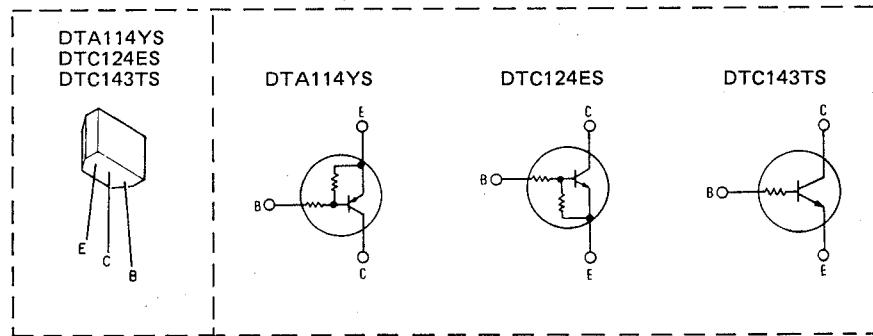
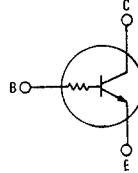
DTA114YS



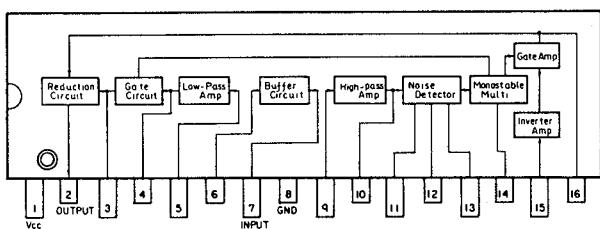
DTC124ES



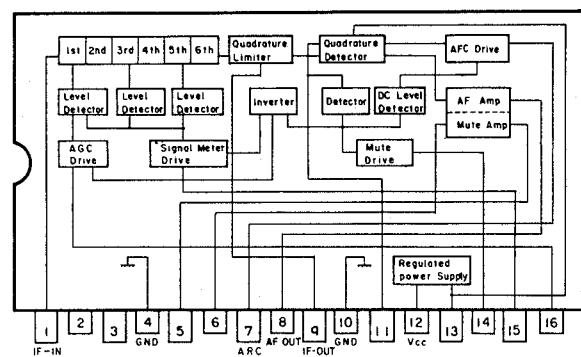
DTC143TS



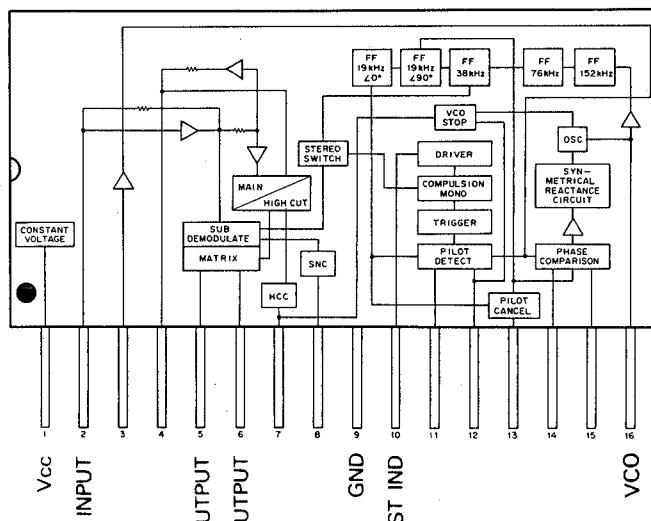
LA2110



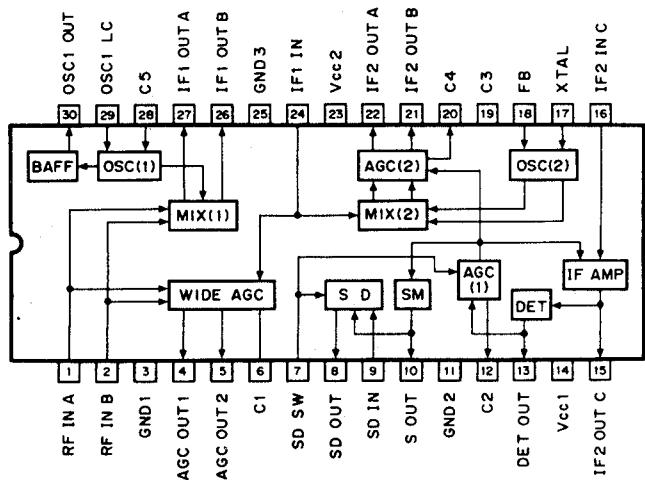
LA1140B



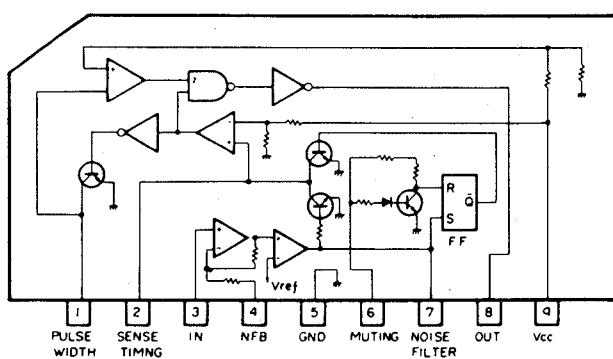
LA3430P



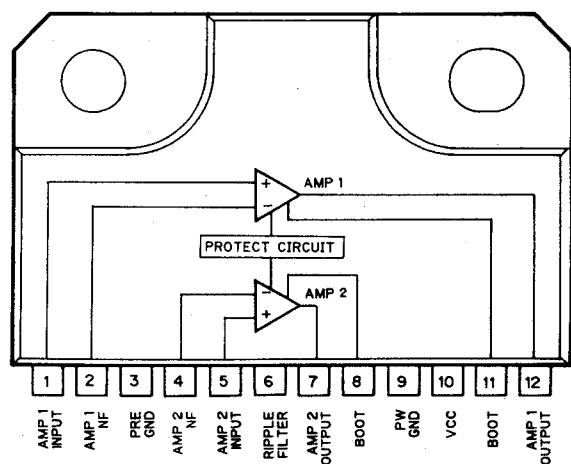
PA4010



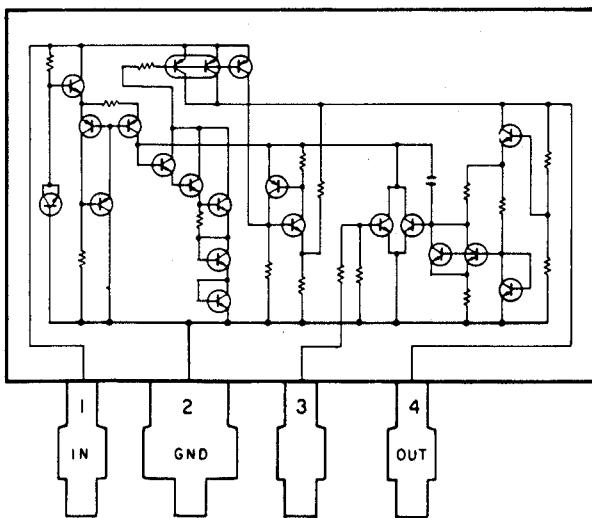
PA0011



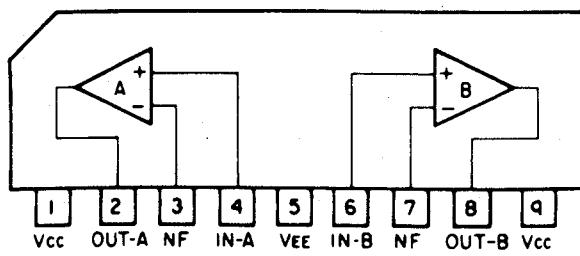
TA7280P



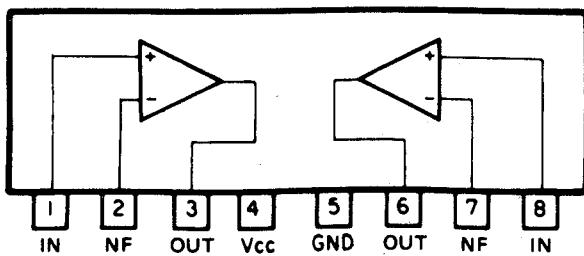
AN6540



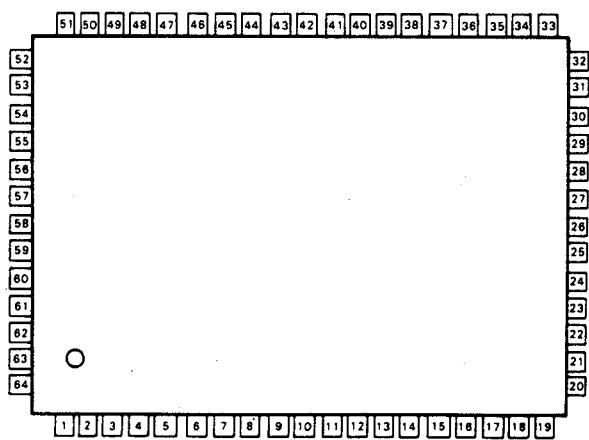
TA75558S



M51522AL

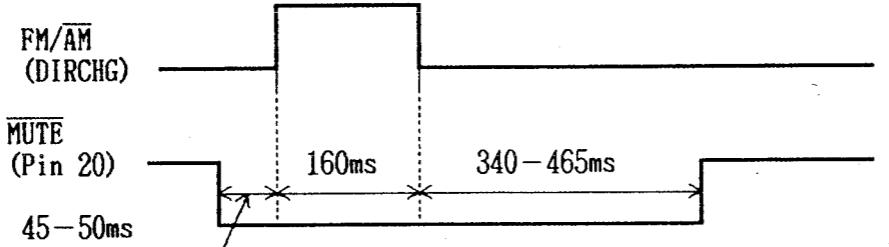


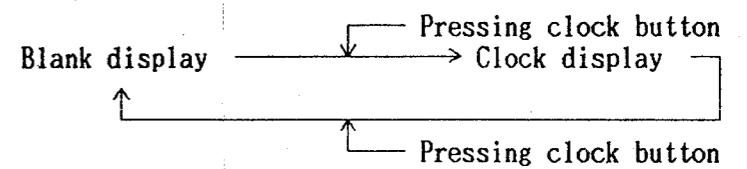
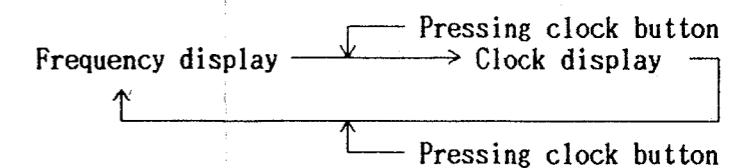
*PD4132



IC's marked by * are MOS type.
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

● Pin Function (PD4132)

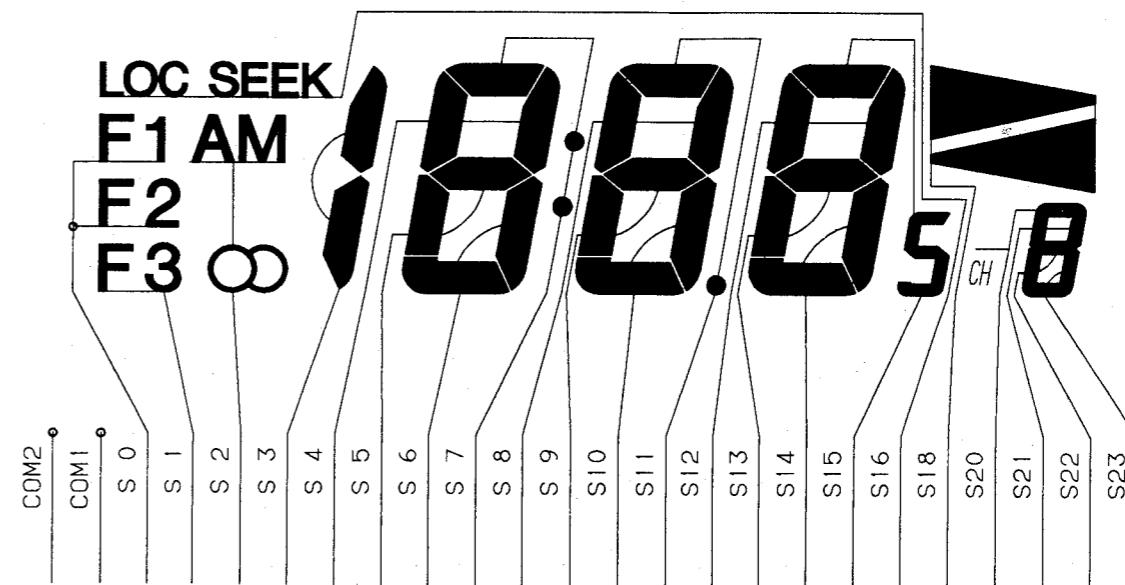
Pin No.	Pin Name	I/O	Function and Operation
1	NC		No connected to internal chips.
2 3	E01 E02	Output	PLL error output. H level output by these terminals when division of local oscillator frequency (VCO output) is higher than reference frequency. L level output when lower, this output is applied to a varactor diode via an external low pass filter. E01 and E02 output identical waveforms.
4 8	GND GND		Ground terminal
5	AM	Input	AM VCO input Inputs 0.6–15MHz(0.3Vp-p MIN) local oscillator reference frequency (VCO output). This terminal is active when direct division system is selected.
6	FM	Input	FM VCO input Inputs 15–150MHz(0.5Vp-p MIN) local oscillator reference frequency (VCO output). This terminal is active when swallow counter method is selected.
7	CE	Input	Chip Enable Device selector signal input. H level during normal device operation, L level when device is not being used. PLL is disable status while this terminal is L level. For models without clocks, internal clock and CPU operation is halted while this terminal is L level, and memory is maintained by low demand current(10 μ A MAX). Change of CE terminal from L to H results in device reset and the program to start from address 0.
9	FM/AM (DIRC-HG)	Output	TAPE MODE(TAPE 14 pin "H") Each time the DIRECTION button is pressed, this pin output the signal shown in the following timing chart.  TUNER MODE(TAPE 14 pin "L") When the tape input pin(pin 14) is low(i.e., the tuner is selected),pin 9 control the power of the FM and AM circuits. The output of this pin is determined as follows: "H":FM ON "L":AM ON
10	SEEK	Output	Tuner SEEK output. "L":SEEK,BSM, and P.SCAN

Pin No.	Pin Name	I/O	Function and Operation																																				
11 21	LOCL LOCH (MS)	Output Output	TUNER MODE(TAPE 14 pin "L") Halt sensitivity switching terminals controlled by LOC and BSM keys. <table border="1" data-bbox="2064 482 3001 684"> <tr> <td></td><td>DX·SEEK(PSCN)</td><td>LOC·SEEK</td><td>BSM-L</td><td>BSM-M</td><td>BSM-H</td></tr> <tr> <td>LOCL</td><td>L</td><td>H</td><td>L</td><td>H</td><td>H</td></tr> <tr> <td>LOCH</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr> </table> <table border="1" data-bbox="2064 706 2556 908"> <tr> <td></td><td colspan="5">During broadcast reception</td></tr> <tr> <td>LOCL</td><td colspan="5">L</td></tr> <tr> <td>LOCH</td><td colspan="5">L</td></tr> </table>		DX·SEEK(PSCN)	LOC·SEEK	BSM-L	BSM-M	BSM-H	LOCL	L	H	L	H	H	LOCH	L	L	L	L	H		During broadcast reception					LOCL	L					LOCH	L				
	DX·SEEK(PSCN)	LOC·SEEK	BSM-L	BSM-M	BSM-H																																		
LOCL	L	H	L	H	H																																		
LOCH	L	L	L	L	H																																		
	During broadcast reception																																						
LOCL	L																																						
LOCH	L																																						
			TAPE MODE(TAPE 14 pin "H") (MS) pin 21 ----- "H":MS ON "L":MS OFF																																				
12	SD	Input	Judges whether or not a FM broadcast is present during auto tuning. A FM broadcast is judged as being present when H level is input.																																				
13	ST	Input	Inputs stereo broadcast detection signal. Stereo is detected when input signal is L level, and "Stereo" indicator is displayed. Display is cleared when input signal is at H level. "Stereo" indicator is off during mute signal output.																																				
14	TAPE	Input	Tape signal input used to change the display modes depending on the clock switch setting. If this pin is set to a high level, the display indicates the tape motion. When this pin is high, the pressing of the clock button causes the following actions:  When this pin is low, the pressing of the clock button causes the following actions: 																																				
15	IF OFF SET	Input	Not used.																																				

Pin No.	Pin Name	I/O	Function and Operation
16	AM IF	Input	AM band IF counter input terminal. Used for broadcast detection in AM band auto tuning.
17	F/R	Input	When the tape input(pin14) is high, this pin accepts a tape motion signal. When this is H level the "▷"(FWD) indicator lights;when L level, the "◁"(REV) indicator.
18 19	KST4 KST5	Output Output	Key return signal source output.
20	MUTE	Output	This muting output terminal, set to active low, eliminates the shock noise when the PLL lock is disengaged.
22	NS	Output	NS(Noise Suppressor) ON/OFF output terminal. While the deck is in operation, the contents of "NS ON/OFF memory" is output from this pin. This pin goes H level when NS is on. (KE-3525)
23	B/C	Output	Not used.
24 25	X0 XI	Output Input	Quartz oscillator connection terminal. 4.5MHz quartz crystal used.
26 58	VDD VDD		Device power supply terminal. 5V ±10% voltage supplied.
27	METAL	Output	Each time the METAL button is pressed, this pin alternates between H and L levels, switching the METAL indicator on and off. "H":METAL "L":NORMAL
28 31	KST3 KST0	Output	Key return signal source output
32 55	S23 S0	Output	Segment signal output terminal to LCD. LCD display performed using COM1,COM2 matrices.
56 57	COM1 COM2	Output Output	Common signal terminal to LCD. GND, 1/2VDD, VDD values(5ms interval) output at 100Hz cycle. Segments between these terminals and S0-S23 with ±VDD potential difference are lit.
59 62	K3 K0	Input	Key matrix input.
63	SL	Input	Station level analog voltage input.
64	INT	Input	Not used.

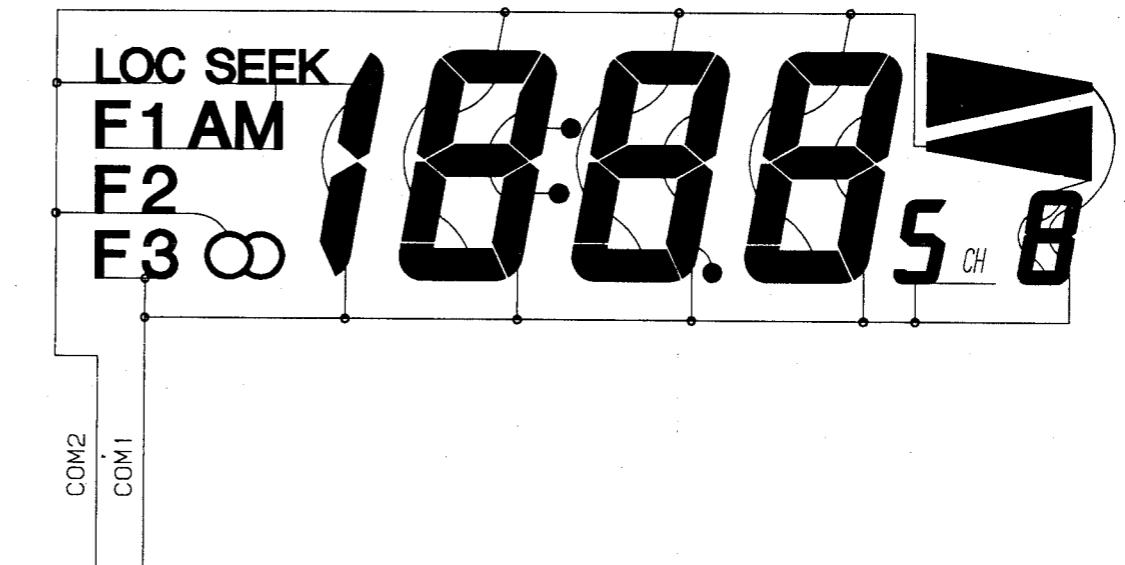
• LCD (CWW1054)

SEGMENT



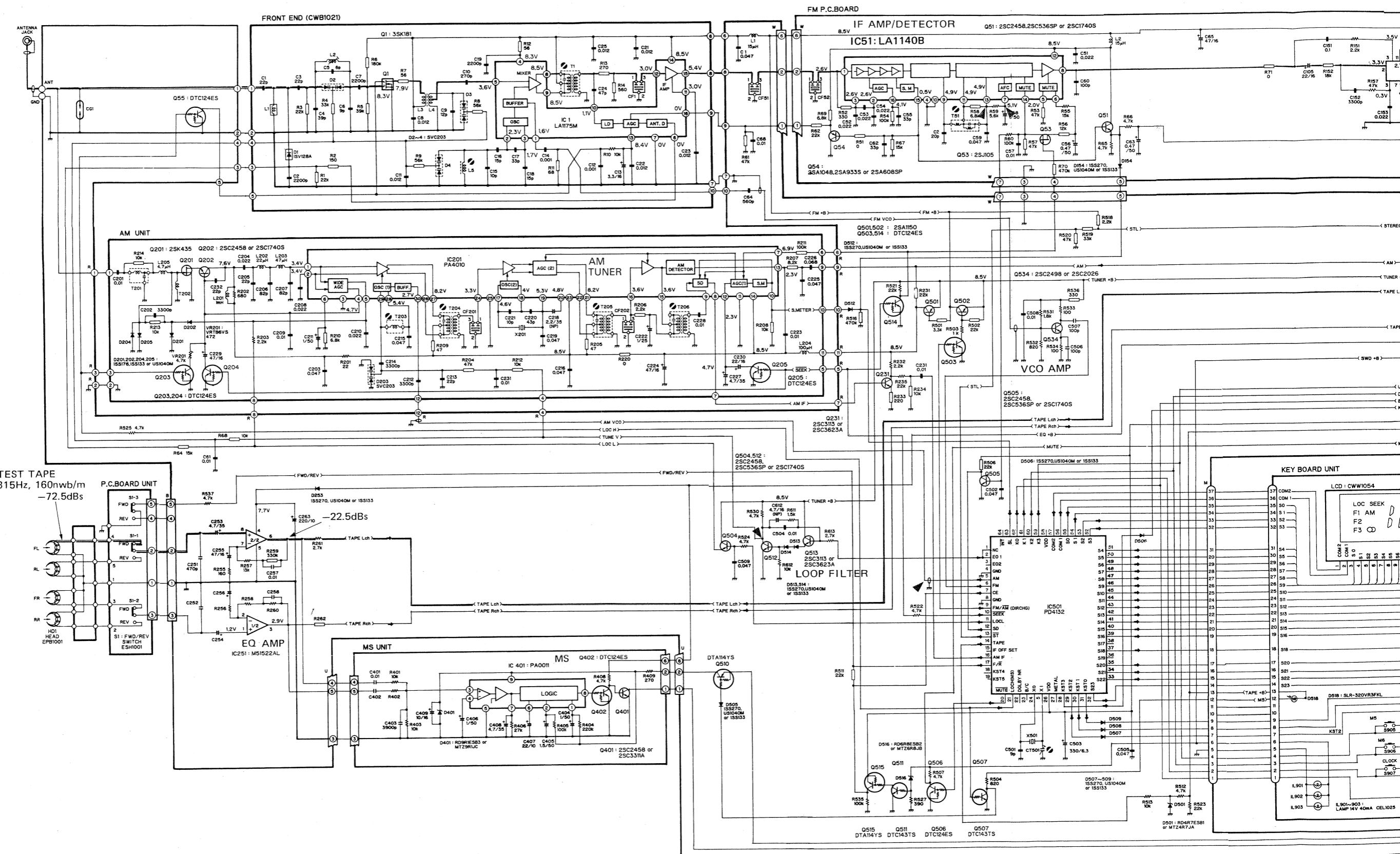
A

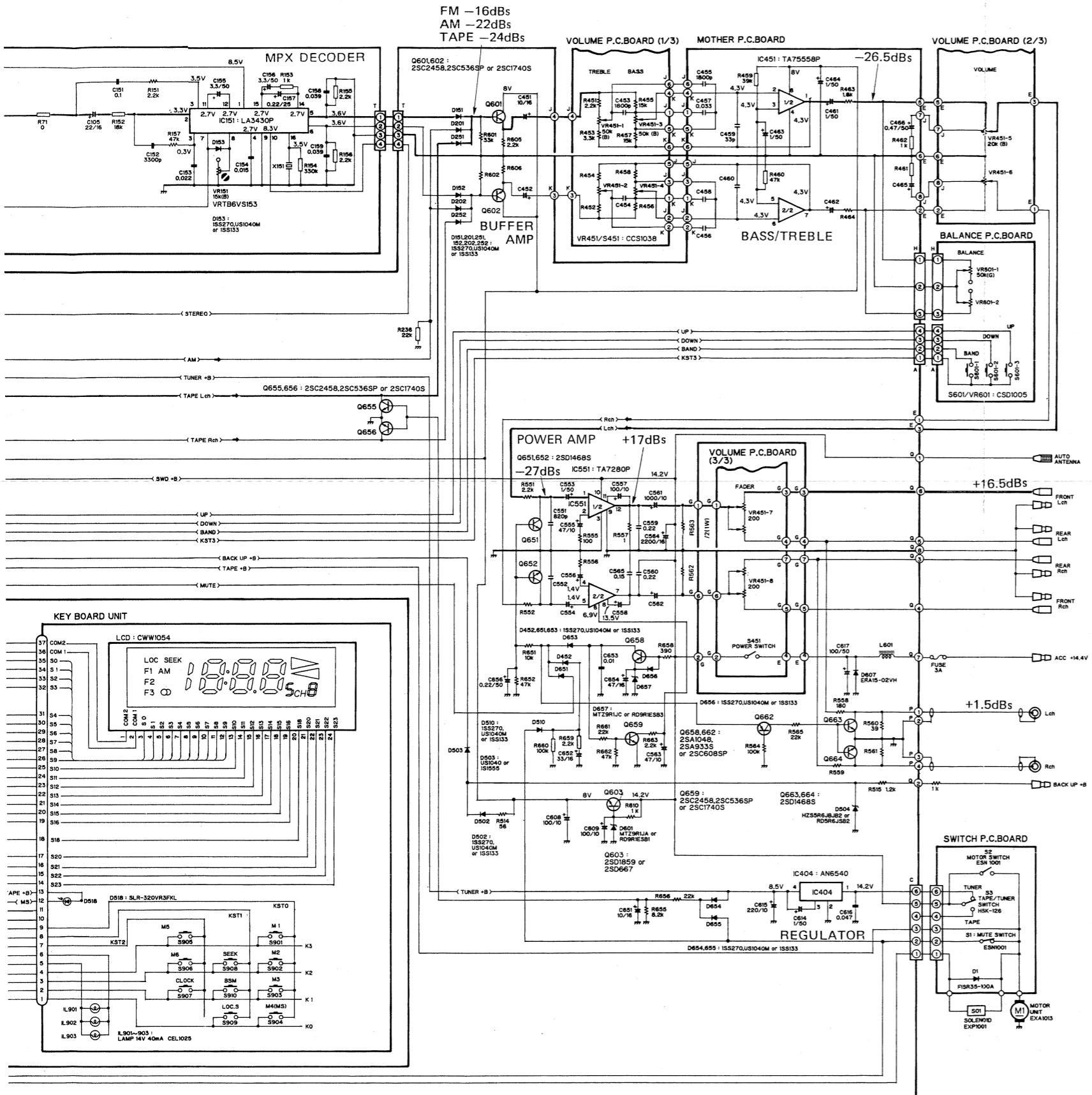
COMMON



B

8. SCHEMATIC CIRCUIT DIAGRAM (KE-4343)





| P.C. Board Unit

- | Consists of
 - | ● Mother P.C.Board
 - | ● FM P.C.Board
 - | ● Volume P.C.Board
 - | ● Balance P.C.Board

NOTE :

-  Indicates a chip resistor.
-  Indicates a chip capacitor.
-  Indicates a chip transistor.

SWITCHES:

SWITCH P.C.BOARD

S1: MUTE SWITCH ON-OFF
 S2: MOTOR SWITCH ON-OFF
 S3: TAPE/TUNER SWITCH TAPE-TUNER

PC BOARD UNIT

S1: FWD/REV SWITCH FWD=REV

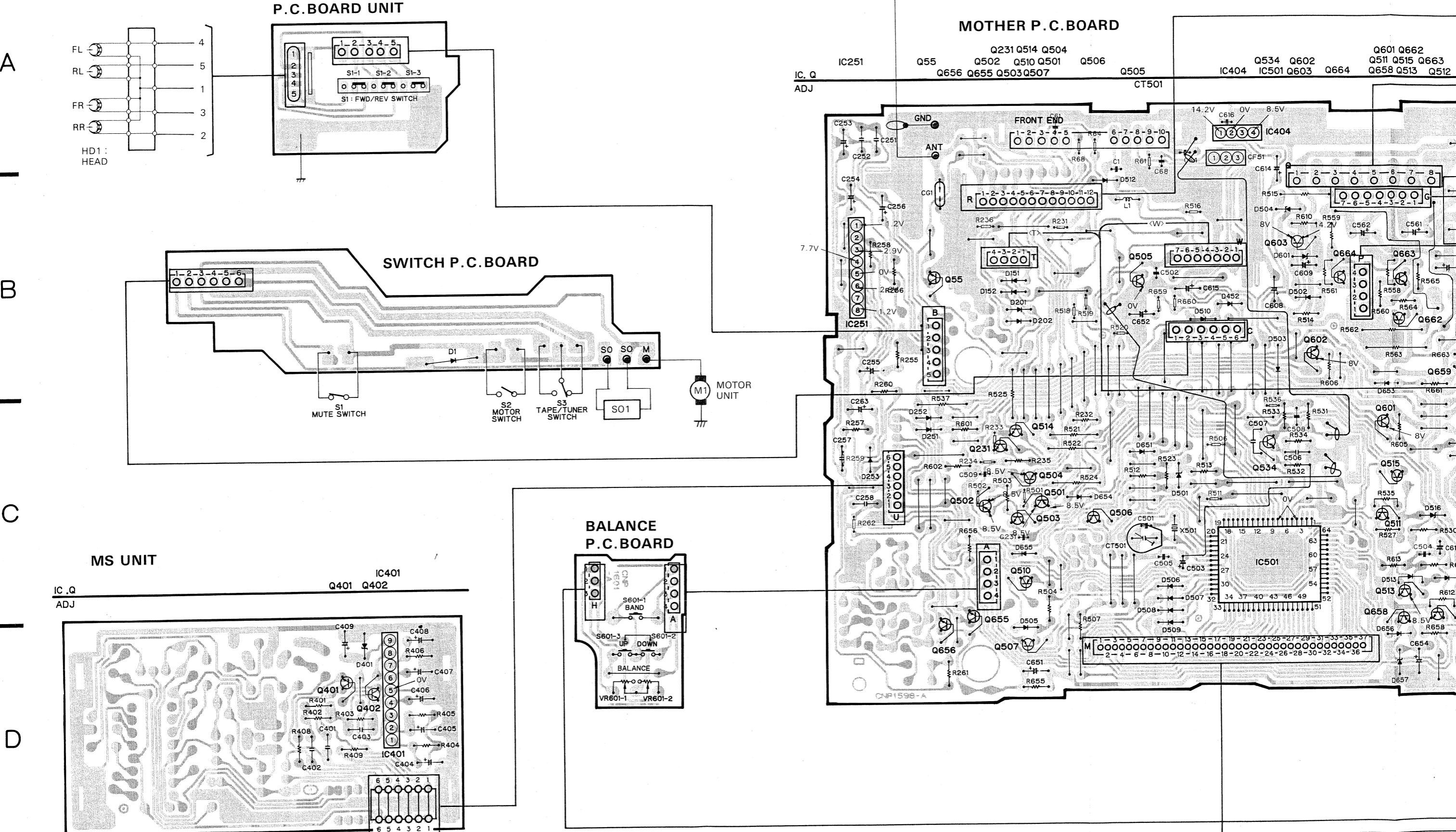
VOLUME P.C. BOARD

S451: POWER SWITCH ON-OFF

The underlined indicated the switch position.

Fig. 6

9. CONNECTION DIAGRAM (KE-4343)



AM UNIT

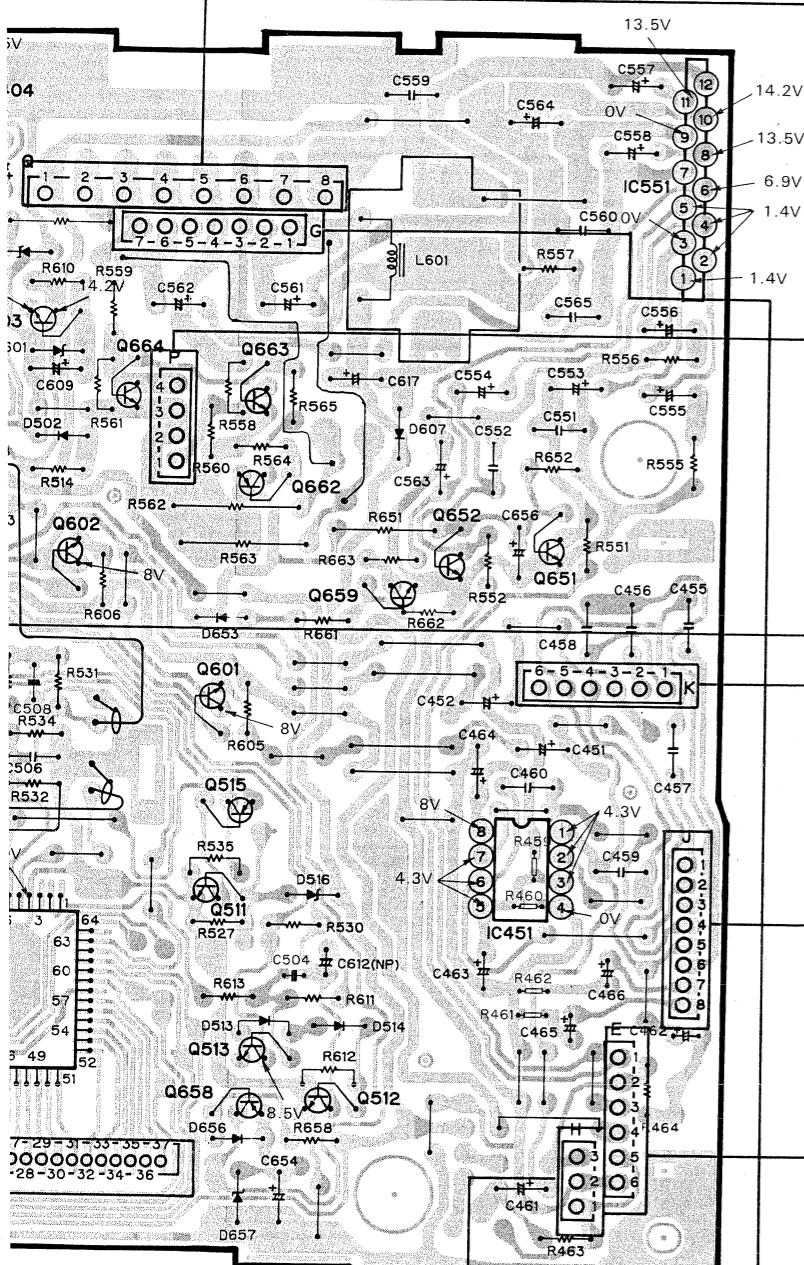
Q202

IC201

Q205

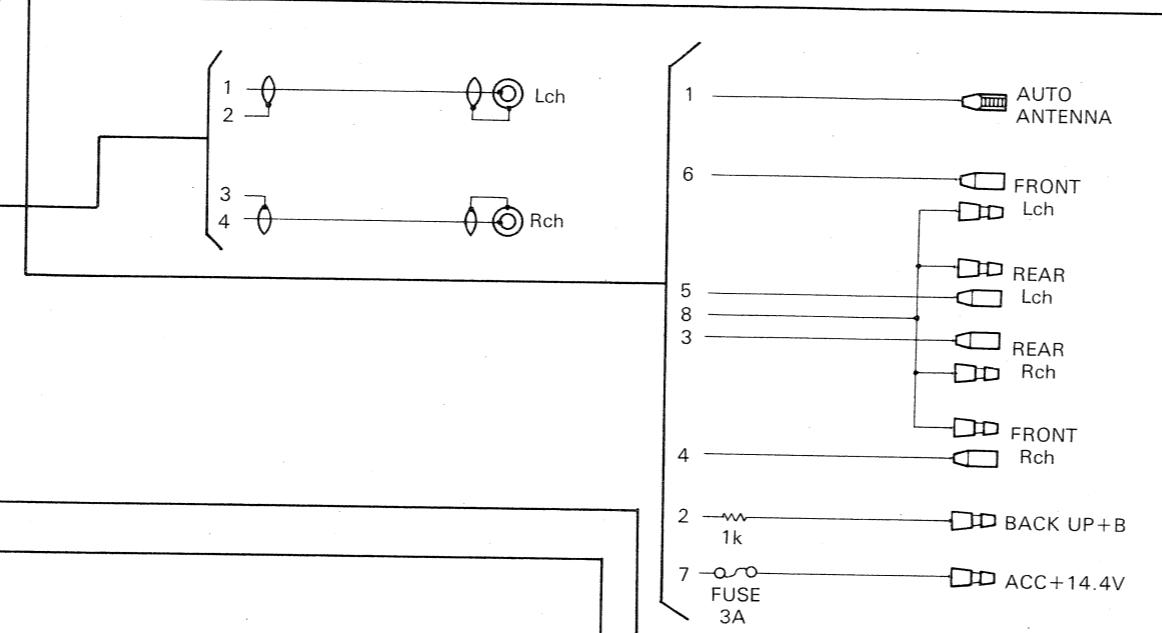
Q204 Q203 Q20

Q601 Q662
4 Q602 Q511 Q515 Q663 Q651
J1 Q603 Q664 Q658 Q513 Q512 Q659 Q652 IC451 IC5

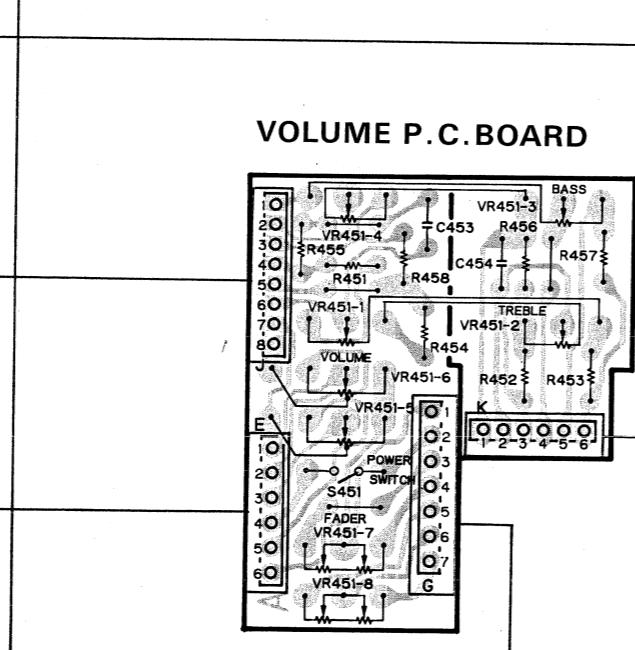


AM UNIT : IC20

1	2	3	4	5	6	7	8	9	10	11	12	13	14	1
3.4V	3.4V	0V	4.7V			6.9V	4.9V			0V	2.3V	2.3V	8.5V	3.
16	17	18	19	20	21	22	23	24	25	26	27	28	29	3.
3.6V	4.6V	4V	5.3V	4.8V	8.2V	8.2V	8.5V	3.3V	0V	8.2V	8.2V	5.4V	5.4V	2.



VOLUME P.C. BOARD



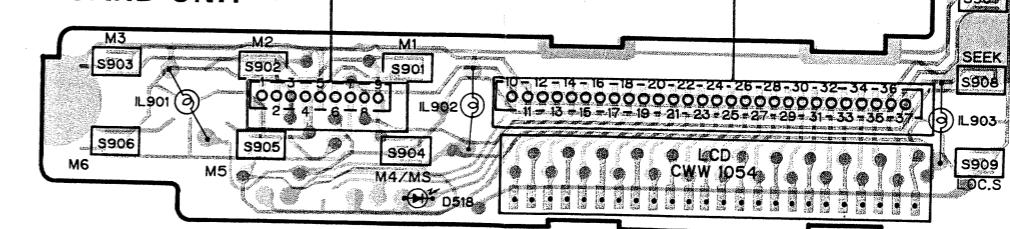
FM P.C.BOARD : IC5

1	2	3	4	5	6	7	8
2.6V	2.6V	2.6V	0V	2.0V		5.1V	
9	10	11	12	13	14	15	16
4.9V	0V	4.9V	8.5V	4.9V		0.5V	4.1V

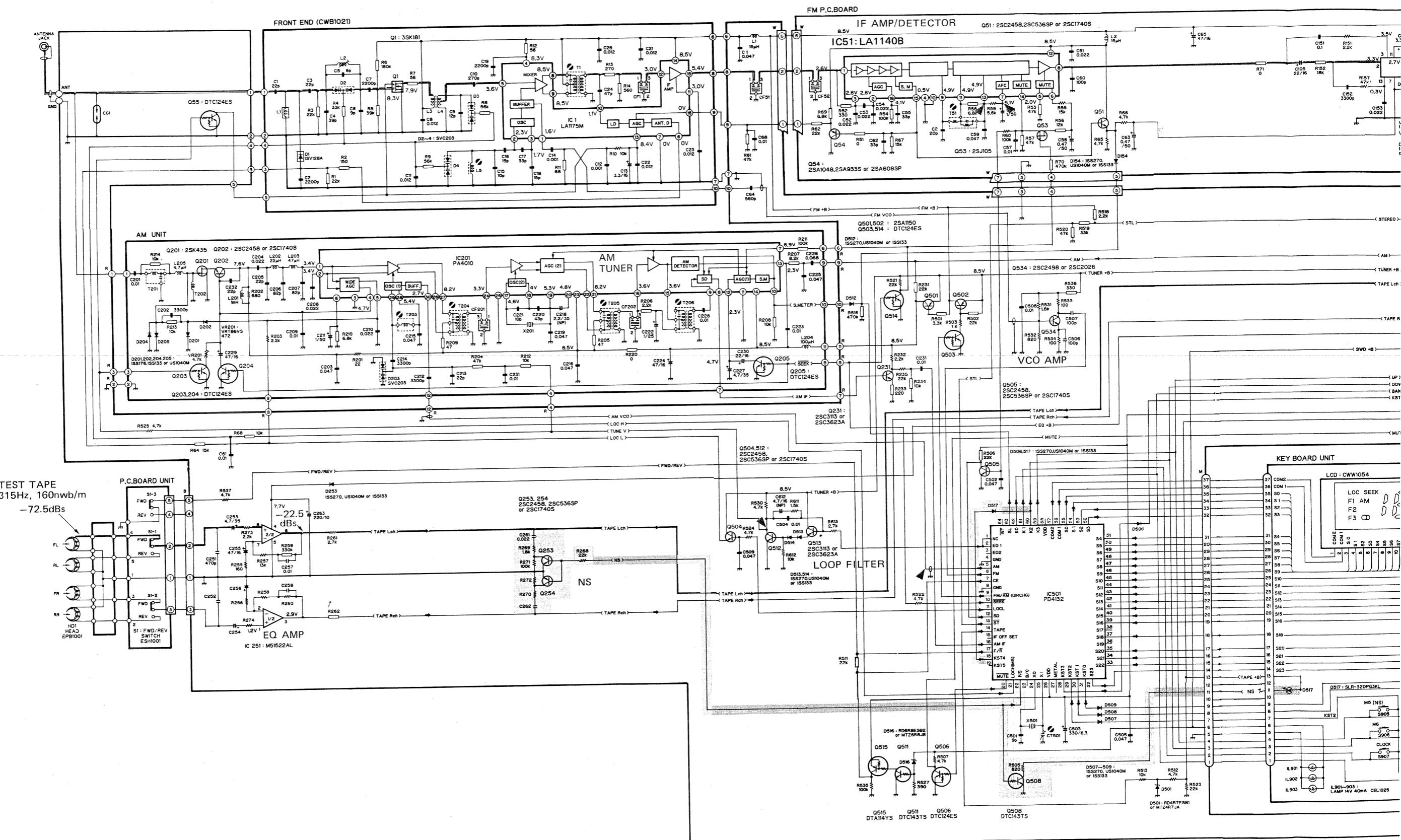
FM P.C. BOARD : IC15

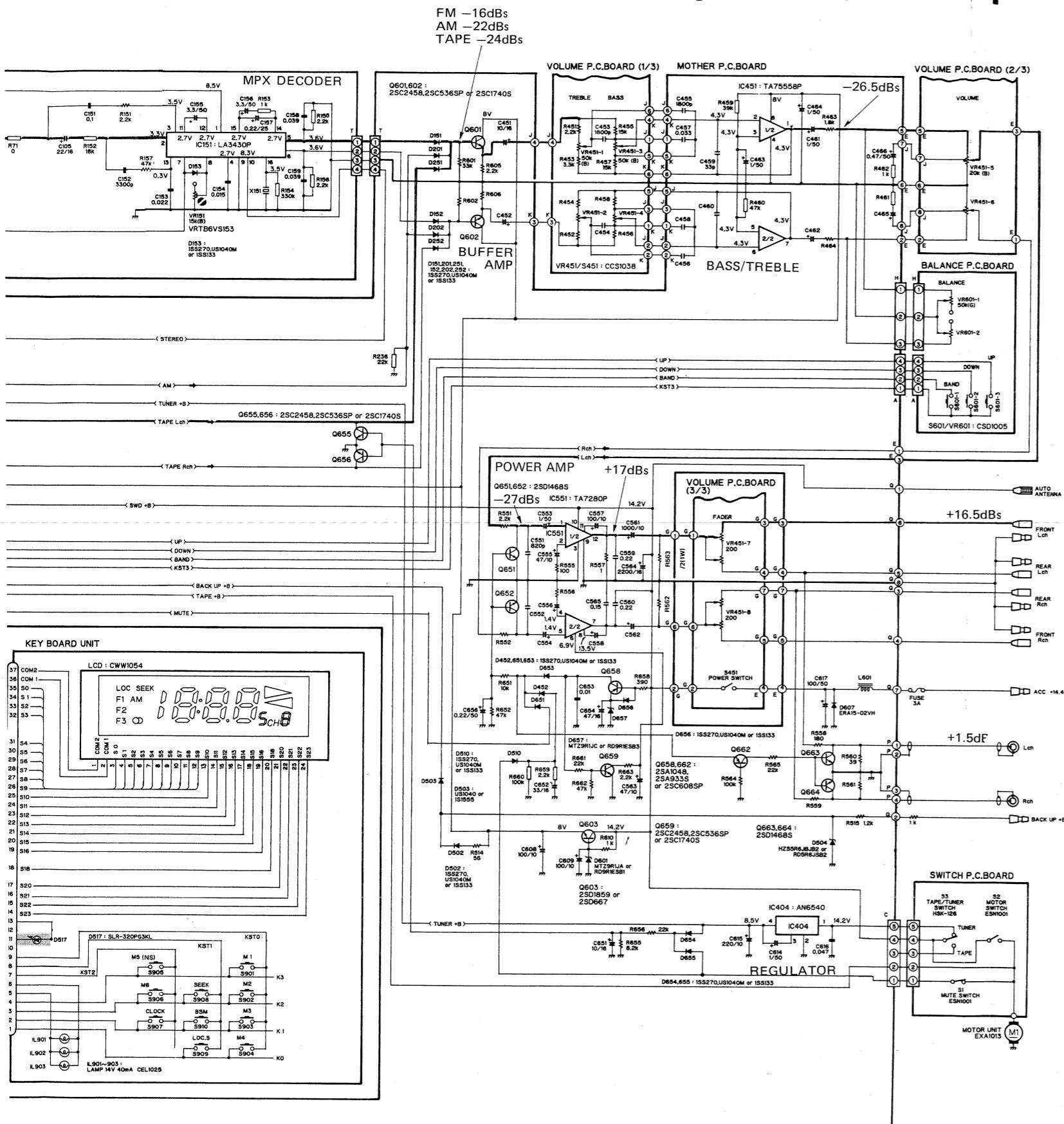
1	2	3	4	5	6	7	8
8.5V	3.3V	3.5V	2.7V	3.6V	3.6V		
9	10	11	12	13	14	15	16
0V	8.3V	2.7V	2.7V	0.3V	2.7V	2.7V	3.5V

KEY BOARD UNIT



10. SCHEMATIC CIRCUIT DIAGRAM (KE-3525, KE-3333)





P.C. Board Unit

- Mother P.C. Board
- FM P.C. Board
- Volume P.C. Board
- Balance P.C. Board

NOTE :

- Indicates a chip resistor.
- Indicates a chip capacitor.
- Indicates a chip transistor.

SWITCHES:

- SWITCH P.C.BOARD**
- S1: MUTE SWITCH ON-OFF
S2: MOTOR SWITCH ON-OFF
S3: TAPE/TUNER SWITCH TAPE-TUNER

- P.C.BOARD UNIT**
- S1: FWD/REV SWITCH FWD-REV

- VOLUME P.C.BOARD**
- S451: POWER SWITCH ON-OFF

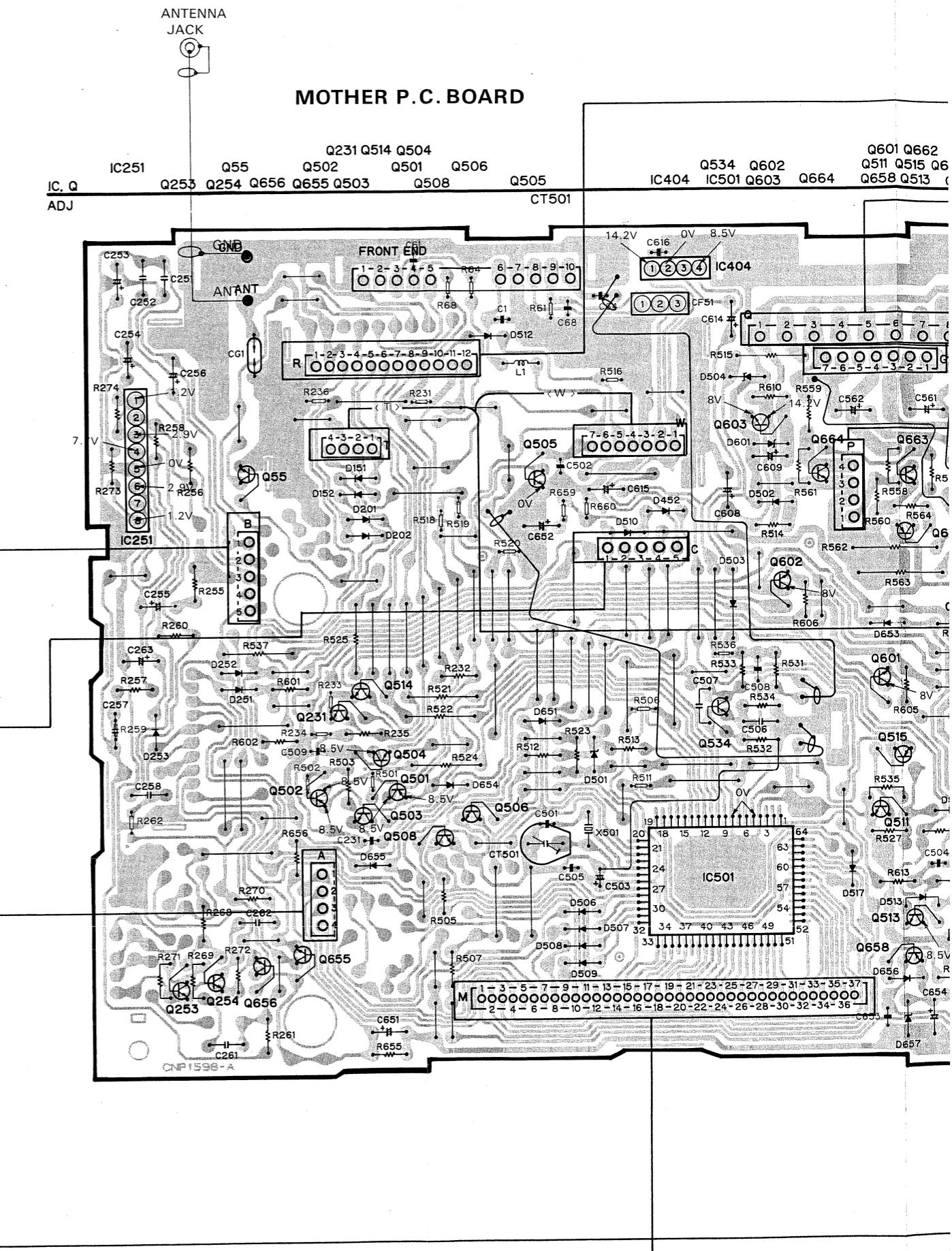
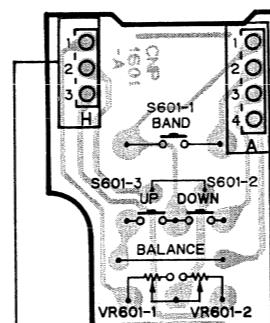
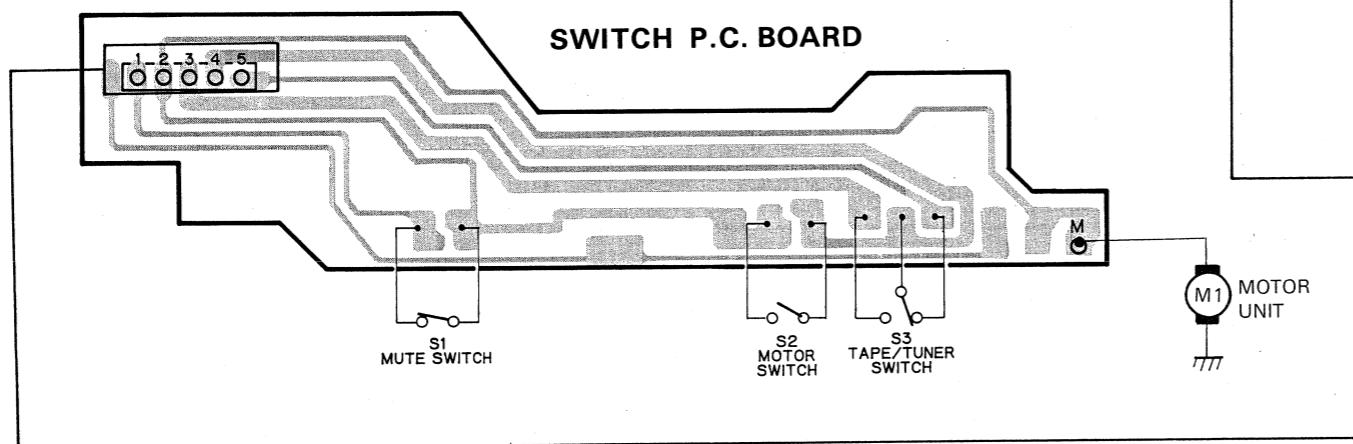
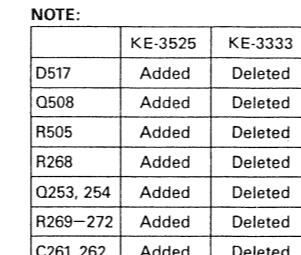
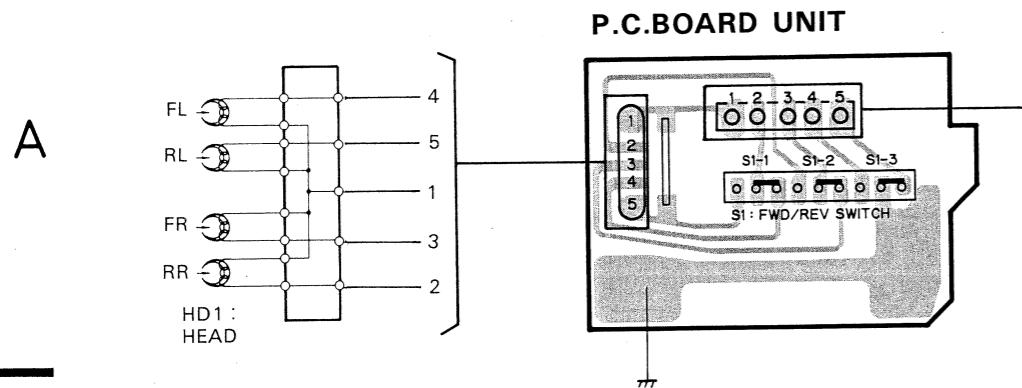
The underlined indicated the switch position.

The schematic circuit diagram for KE-3333 is the same as the KE-3525 except for following points:

1. D517 (Mother P.C. Board) has been deleted from KE-3525.
2. Q253 and Q254 (Mother P.C. Board) have been deleted from KE-3525.
3. R269 and R270 (Mother P.C. Board) have been deleted from KE-3525.
4. R271 and R272 (Mother P.C. Board) have been deleted from KE-3525.
5. C261 and C262 (Mother P.C. Board) have been deleted from KE-3525.
6. R268 (Mother P.C. Board) has been deleted from KE-3525.
7. Q508 (Mother P.C. Board) has been deleted from KE-3525.
8. R505 (Mother P.C. Board) has been deleted from KE-3525.
9. D517 (Key Board Unit) has been deleted from KE-3525.

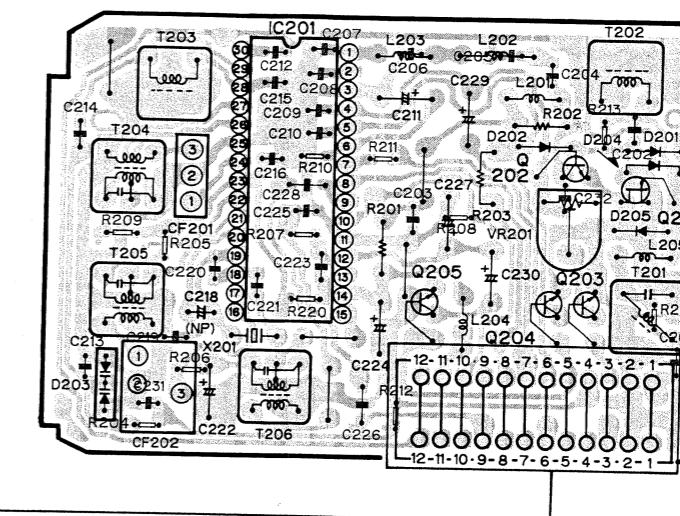
Fig. 8

11. CONNECTION DIAGRAM (KE-3525, KE-3333)

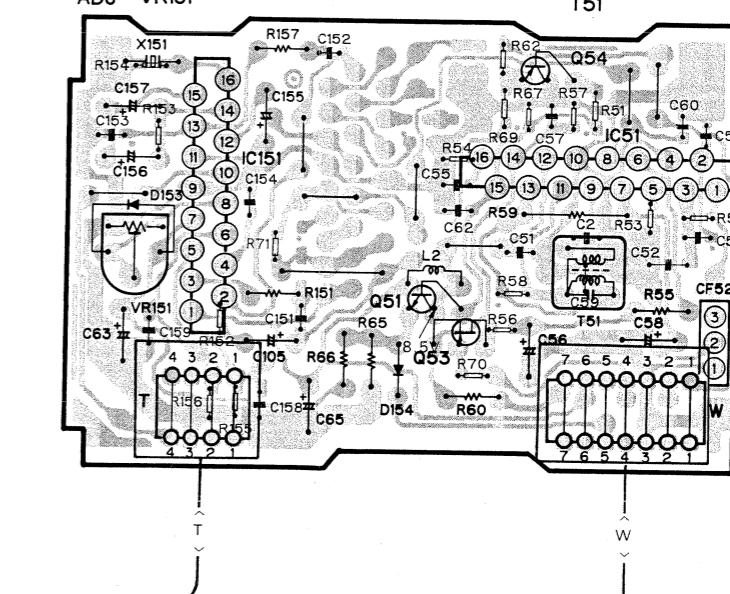


AM UNIT

IC, Q		IC201	Q205	Q202	Q204	Q203	Q201
ADJ	T204	T203	T206	T205	T205	T205	T205



FM P.C. BOARD



KEY BOARD UNIT

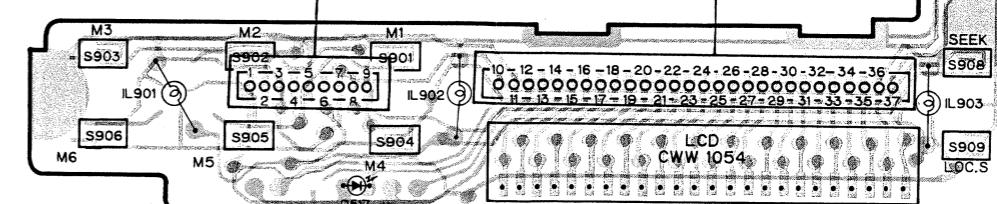
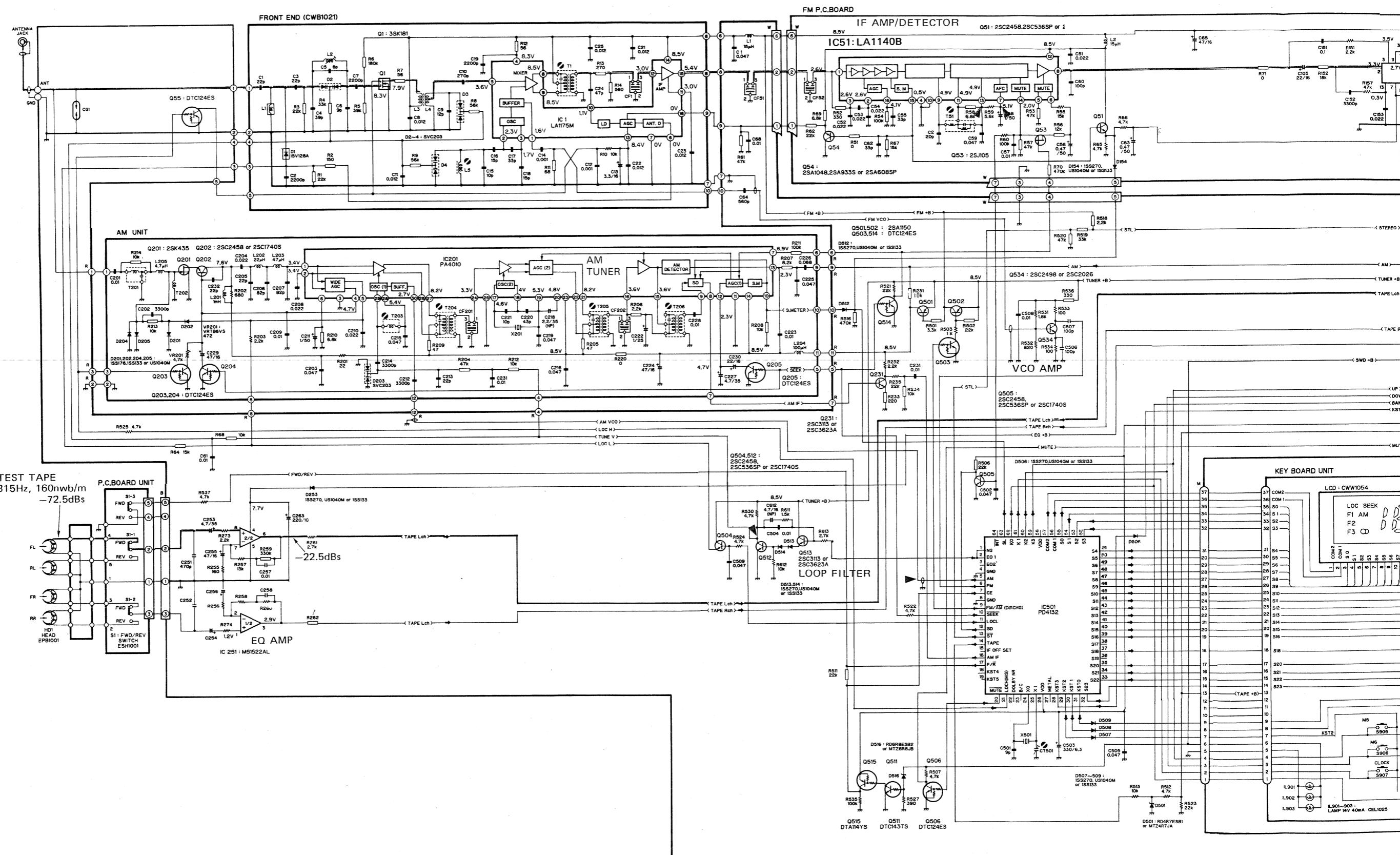
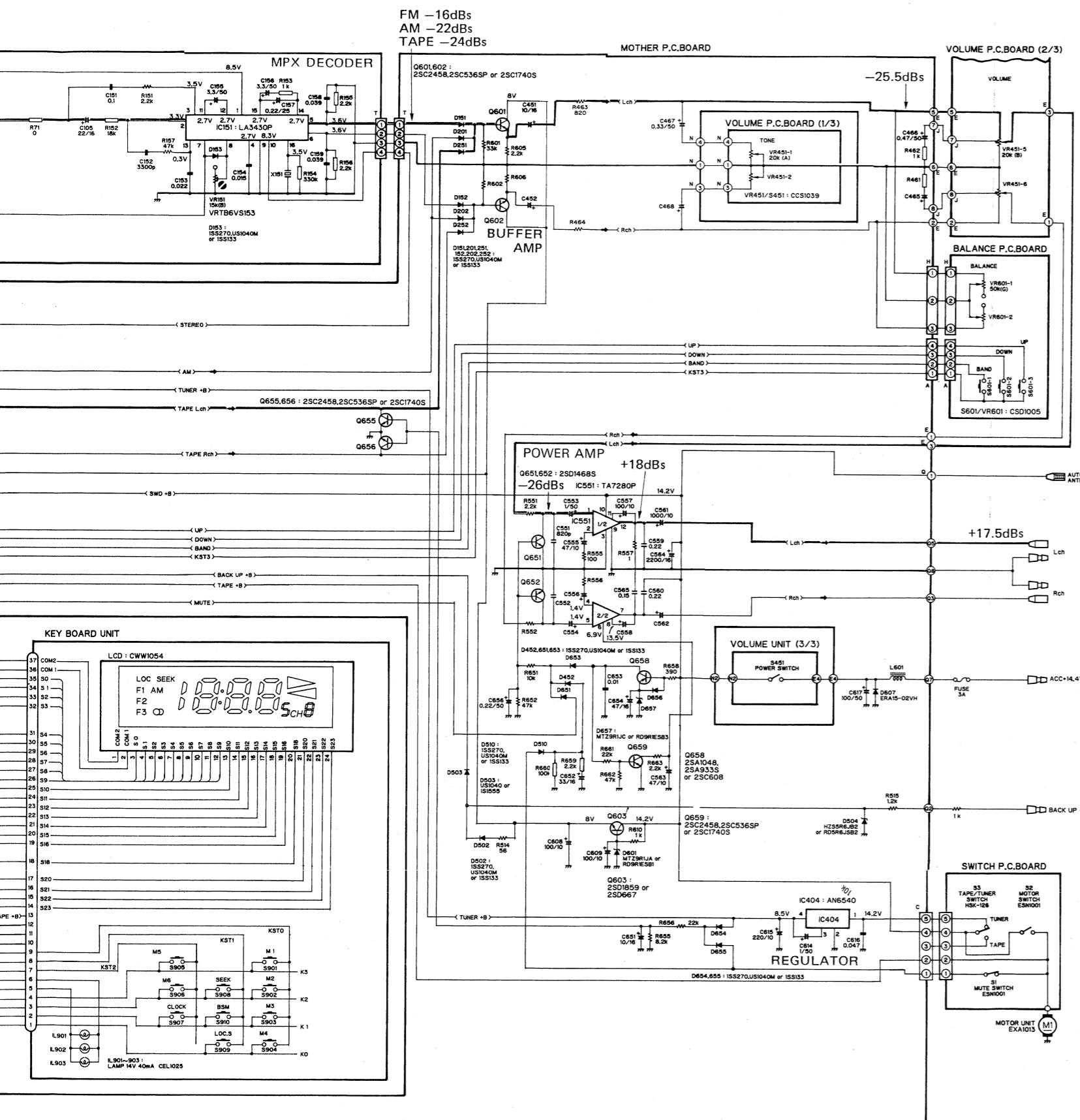


Fig. 9

12. SCHEMATIC CIRCUIT DIAGRAM (KE-2323)





P.C. Board Unit

- Mother P.C. Board
- FM P.C. Board
- Volume P.C. Board
- Balance P.C. Board

NOTE :

- Indicates a chip resistor.
- Indicates a chip capacitor.
- Indicates a chip transistor.

A

SWITCHES:

SWITCH P.C.BORD

- | | |
|-----------------------------|------------|
| S1: MUTE SWITCH | ON-OFF |
| S2: MOTOR SWITCH | ON-OFF |
| S3: TAPE/TUNER SWITCH | TAPE-TUNER |

P.C.BOARD UNIT

- | | |
|--------------------------|---------|
| S1: FWD/REV SWITCH | FWD-REV |
|--------------------------|---------|

VOLUME P.C.BORD

- | | |
|--------------------------|--------|
| S451: POWER SWITCH | ON-OFF |
|--------------------------|--------|

The underlined indicated the switch position.

B

C

D

Fig. 10

1

2

3

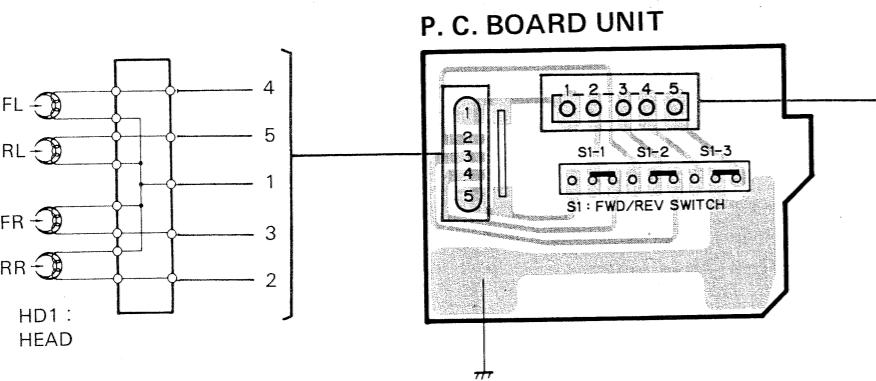
4

5

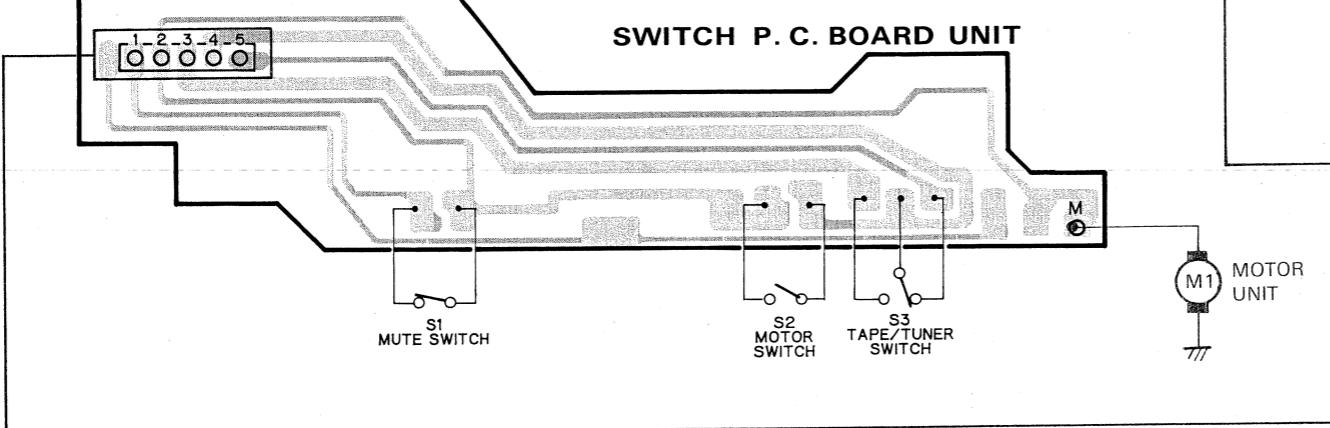
6

13. CONNECTION DIAGRAM (KE-2323)

A

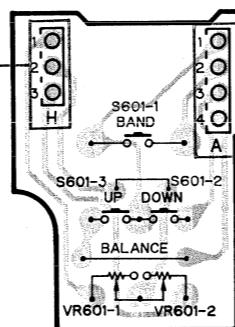


B

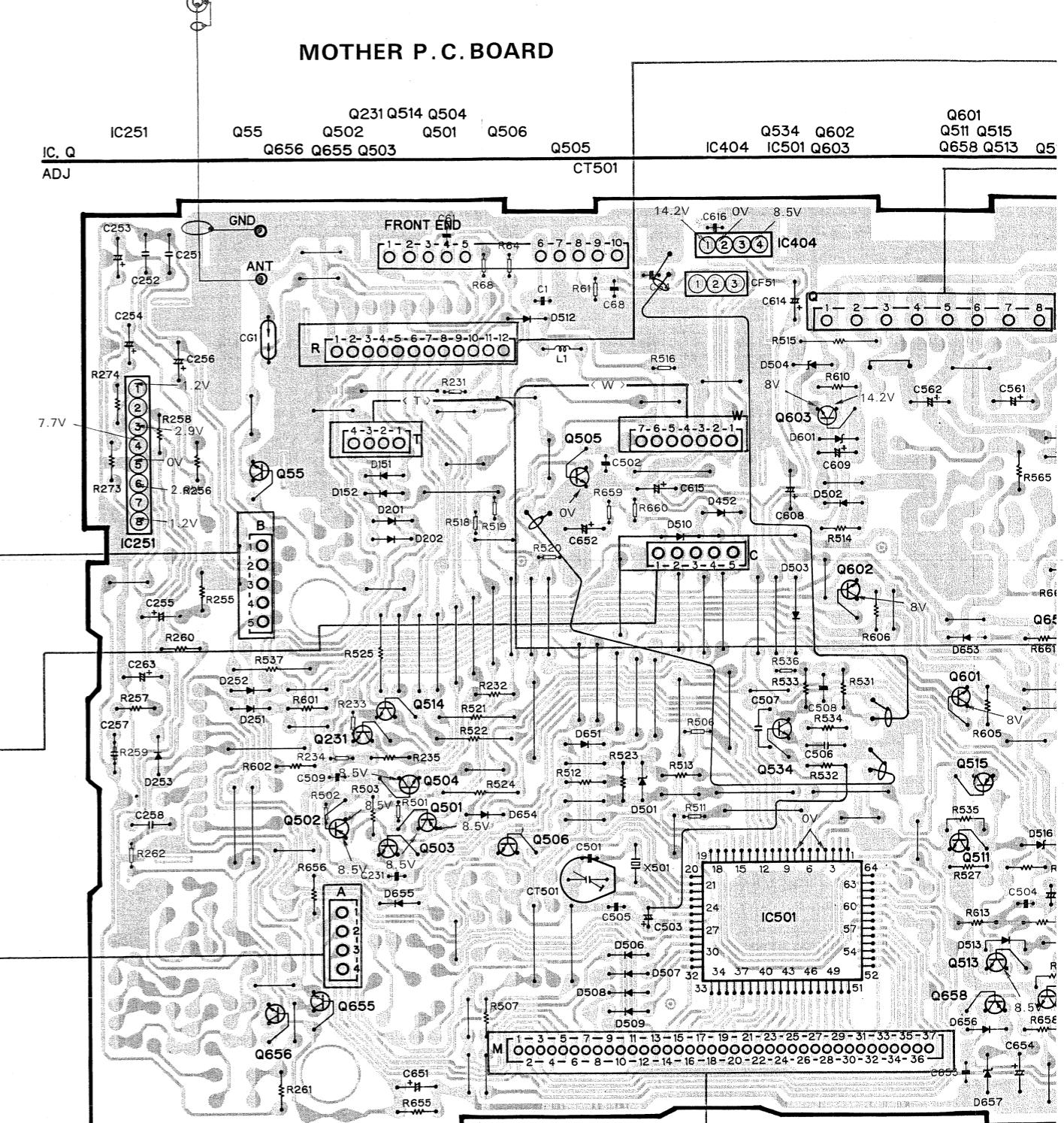


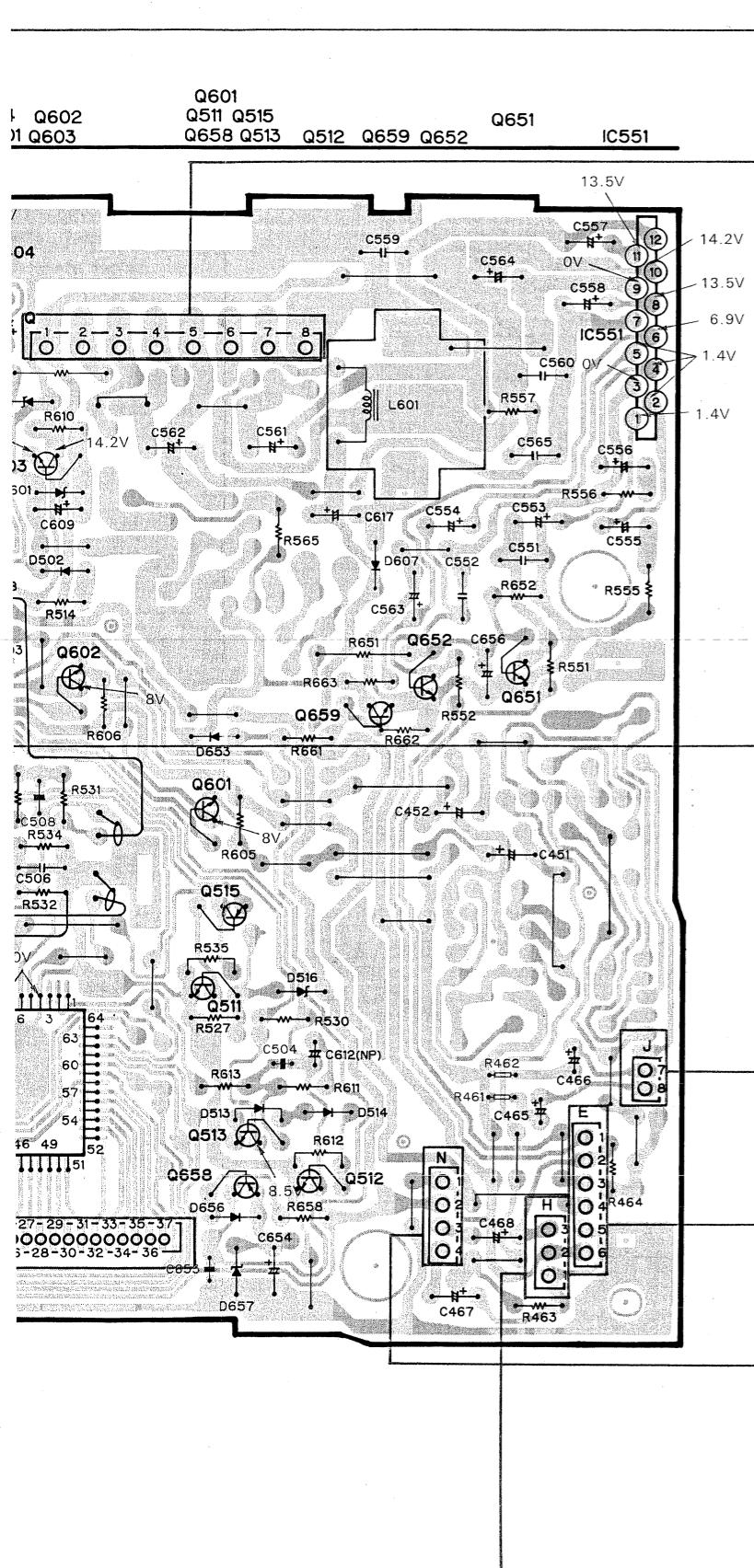
C

**BALANCE
P. C. BOARD**



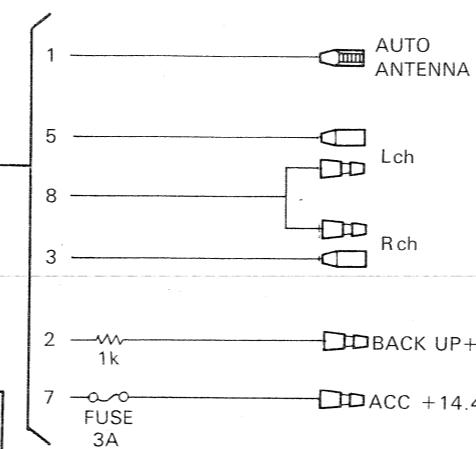
D





AM UNIT : IC201

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
3.4V	3.4V	0V	4.7V			6.9V	4.9V			0V	2.3V	2.3V	8.5V	3.6V
16	17	18	19	20	21	22	23	24	25	26	27	28	29	20
3.6V	4.6V	4V	5.3V	4.8V	8.2V	8.2V	8.5V	3.3V	0V	8.2V	5.42V	5.4V	5.4V	2.7V



FM P.C. BOARD : IC51

1	2	3	4	5	6	7	8
2.6V	2.6V	2.6V	0V	2.0V		5.1V	
9	10	11	12	13	14	15	16

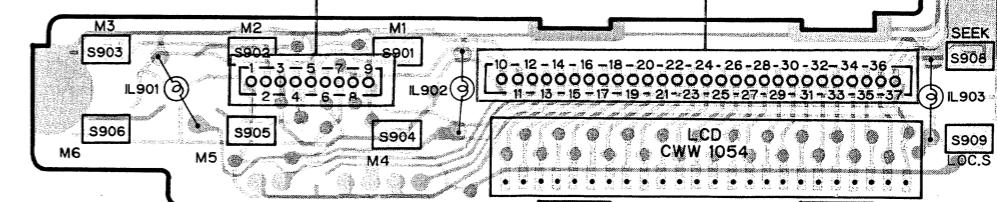
1	2	3	4	5	6	7	8
4.9V	0V	4.9V	8.5V	4.9V		0.5V	4.1V
9	10	11	12	13	14	15	16

FM P.C. BOARD : IC151

1	2	3	4	5	6	7	8
8.5V	3.3V	3.5V	2.7V	3.6V	3.6V		
9	10	11	12	13	14	15	16

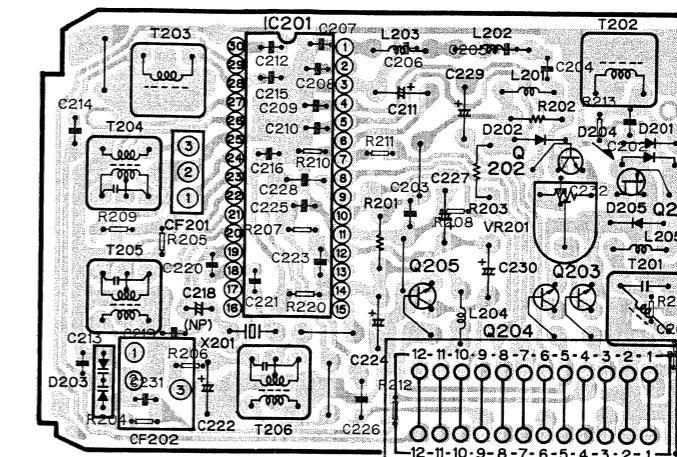
1	2	3	4	5	6	7	8
0V	8.3V	2.7V	2.7V	0.3V	2.7V	2.7V	3.5V
9	10	11	12	13	14	15	16

KEY BOARD UNIT



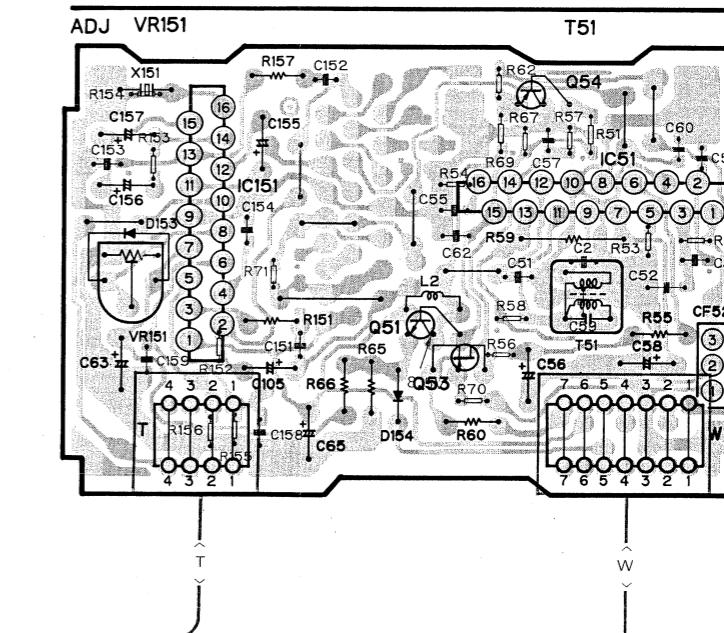
AM UNIT

IC, Q	IC201	Q205	Q204	Q203	Q201
ADJ	T204	T203	T206	T205	Q202



FM P.C. BOARD

IC, Q	IC151	Q51	Q53	Q54	IC51
ADJ	VR151				T51



A

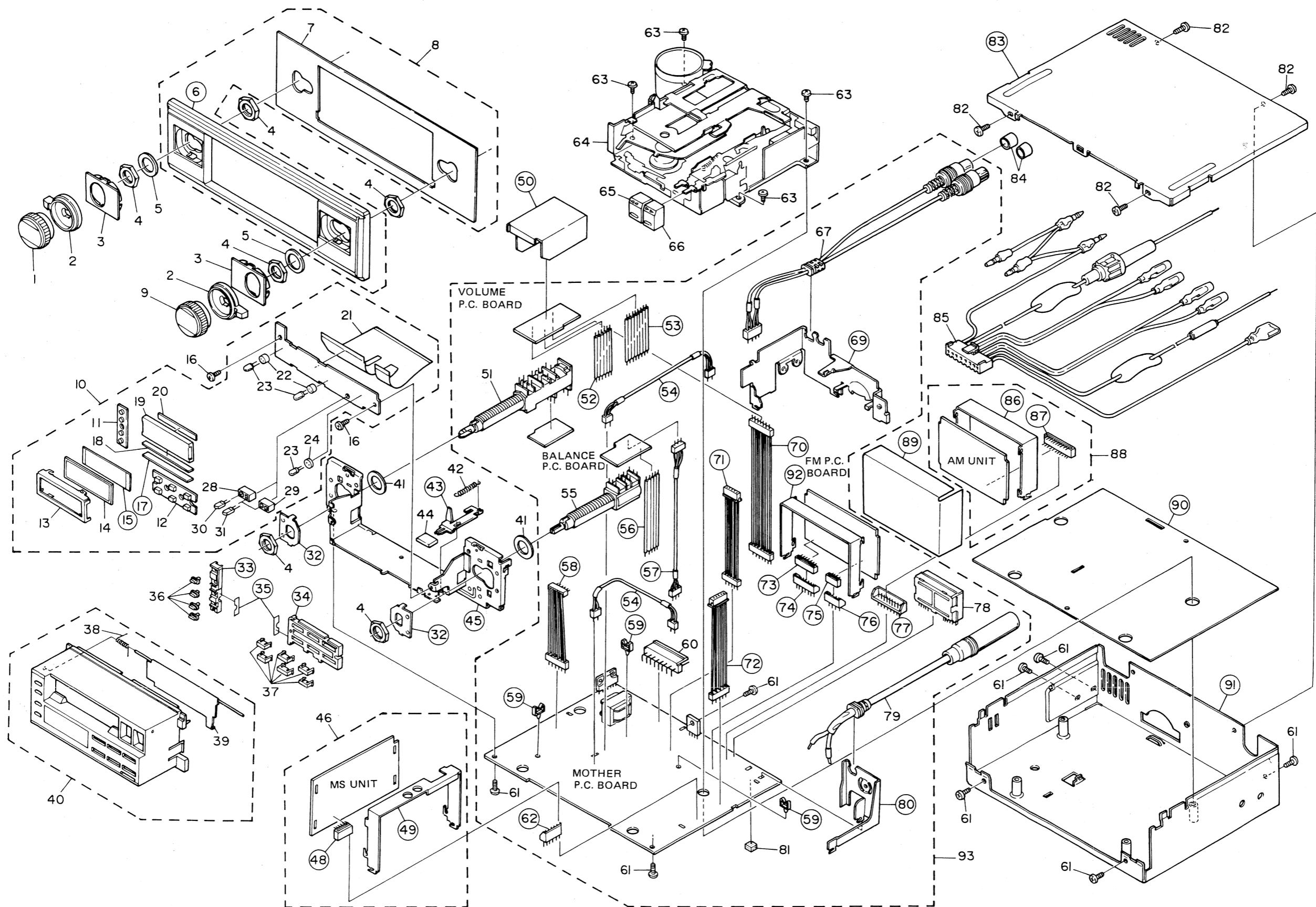
B

C

D

Fig. 11

14. EXPLODED VIEW



• Parts List

NOTE:

- For your Parts
★ ★ and ★.
★ ★: GENER
This classical
number, temp
- Parts whose p
- Parts marked
longer than us

A

B

C

D

★★

Mark	★	No.	I
	★	1	(
	★	2)
	★	3)
	★	4)
	★	5)
	★	6)
	★	7)
	★	8)
	★	9)
	★	10)
	★	11)
	★	12)
	★	13)
	★	14)
	★	15)
	★	16	F
	★	17)
	★	18)
	★	19)
	★	20)
	★	21)
	★	22)
	★	23)
	★	24)
	★	25)
	★	26)
	★	27)
	★	28)
	★	29)
	★	30)
	★	31)
	★	32)
	★	33)
	★	34)
	★	35)
	★	36)
	★	37)
	★	38)
	★	39)
	★	40)
	★	41)
	★	42)
	★	43)
	★	44)
	★	45)
	★	46)
	★	47)
	★	48)
	★	49)
	★	50)
	★	51)
	★	52)
	★	53)
	★	54)
	★	55)
	★	56)
	★	57)
	★	58)
	★	59)
	★	60)
	★	61)
	★	62)
	★	63)
	★	64)
	★	65)
	★	66)
	★	67)
	★	68)
	★	69)
	★	70)
	★	71)
	★	72)
	★	73)
	★	74)
	★	75)
	★	76)
	★	77)
	★	78)
	★	79)
	★	80)
	★	81)
	★	82)
	★	83)
	★	84)
	★	85)
	★	86)
	★	87)
	★	88)
	★	89)
	★	90)
	★	91)
	★	92)
	★	93)

Fig. 12

• Parts List

NOTE:

- A • For your Parts Stock Control, the fast moving items are indicated with the marks
 ★★ and ★.
 ★★: GENERALLY MOVES FASTER THAN ★.
 This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
 • Parts whose parts numbers are omitted are subject to being not supplied.
 • Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
★	1	CAA1011	Knob (KE-4343, KE-3525, KE-3333)		26	.....
★	2	CAA1109	Knob (KE-2323)		27	.....
★	3	CAA1054	Knob		28	CNV1302	Bush (KE-4343)
		CNK-292	Cap	★	29	CNV1302	Bush (KE-3525)
	4	CBN-028	Nut	★	30	SLR-320VR3FKL	LED (KE-4343)
	5	CND-646	Spacer		31	SLR-320PG3KL	LED (KE-3525)
	6		Panel (KE-4343, KE-3525, KE-3333)		32	Holder	
			Panel (KE-2323)		33	Lens	
	7	CNG-633	Plate	★	34	Lens	
	8	CXA1968	Panel Assy (KE-4343, KE-3525, KB-3333)	★	35	Plate	
					36	CAC1712	Button
					37	CAC1540	Button
					38	CBH1033	Spring
					39	CAT1117	Door (KE-4343)
					40	CAT1120	Door (KE-3525)
					41	CAT1119	Door (KE-3333, 2323)
					42	CXA2003	Grille Unit (KE-4343)
					43	CXA2006	Grille Unit (KE-3525)
					44	CXA2005	Grille Unit (KE-3333)
					45	CXA2007	Grille Unit (KE-2323)
	11	CNV1375	Rubber		46	CBE-084	Spacer
	12	CNV1760	Rubber		47	CBH1084	Spring
	13	CNH-136	Holder	★	48	Lever	
	14	CWW1054	LCD		49	CAC1550	Button
	15		Plate		50		Frame Unit
	16	PMZ20P050FMC	Screw	●	51	CW1455	MS Unit (KE-4343)
	17		Insulator		47	.....
	18	CNY-214	Connector		48		Connector (KE-4343)
	19	CNY-215	Lens		49		Holder (KE-4343)
	20	CNN-137	Spacer		50		Insulator
	21	CNP1670	P.C. Board	★★	51	CCS1038	Volume (KE-4343, KE-3525, KE-3333)
	22	CNV1088	Bush	★★	52	CCS1039	Volume (KE-2323)
	23	CEL1025	Lamp				Connector
	24	CNV1102	Bush				
	25	....				

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
	53		Connector (8P) (KE-4343, KE-3525, KE-3333)		73		Connector
	54	CSD1005	Connector (2P) (KE-2323)		74		Plug
★★	55		Connector		75		Connector
			Switch		76		Plug
	56		Connector		77		Plug
	57		Connector		78	CWB1021	Front End
	58		Connector (KE-4343, KE-3525, KE-3333)		79	CDH1069	Antenna Cable
	59		Clamper		80		Holder
	60	CKS-465	Plug		81	CNN-412	Cushion
	61	BMZ30P060FMC	Screw		82	BMZ30P040FMC	Screw
	62		Plug (KE-4343)		83		Case
	63	BMZ26P050FMC	Screw		84	CNW-829	Cap (KE-4343, KE-3525, KE-3333)
●	64	EXK1010	Cassette Mechanism Assy (KE-4343)		85	CDE1769	Cord Assy (KE-4343, KE-3525, KE-3333)
	65	CAC1358	EXK1130		86		CDE1770
★★	66	CAC1357	Cassette Mechanism Assy (KE-3525, KE-3333, KE-2323)		87		Holder
	67	CDE1674	Button (<<>>)		88	CWA1009	Plug
★★	68	.....	Button (>><<)		89		AM Unit
	69		Heat Sink		90		Insulator
	70		Connector (7P) (KE-4343, KE-3525, KE-3333)		91		Chassis Unit (KE-4343, KE-3525, KE-3333)
	71		Connector (4P) (KE-2323)		92		Chassis Unit (KE-2323)
	72		Connector (6P) (KE-4343)		93	CWM1439	Holder
			Connector (5P) (KE-3525, KE-3333, KE-2323)		94	CWM1447	P.C. Board Unit (KE-4343)
			Connector		95	CWM1445	P.C. Board Unit (KE-3525)
					96	CWM1445	P.C. Board Unit (KE-3333)
					97	CWM1451	P.C. Board Unit (KE-2323)
D	16	PMZ20P050FMC	Screw				
	17		Insulator				
	18	CNY-214	Connector				
	19	CNY-215	Lens				
	20	CNN-137	Spacer				
★★	21	CNP1670	P.C. Board	★★	51	CCS1038	Volume (KE-4343, KE-3525, KE-3333)
	22	CNV1088	Bush	★★	52	CCS1039	Volume (KE-2323)
	23	CEL1025	Lamp				
	24	CNV1102	Bush				
	25	....				

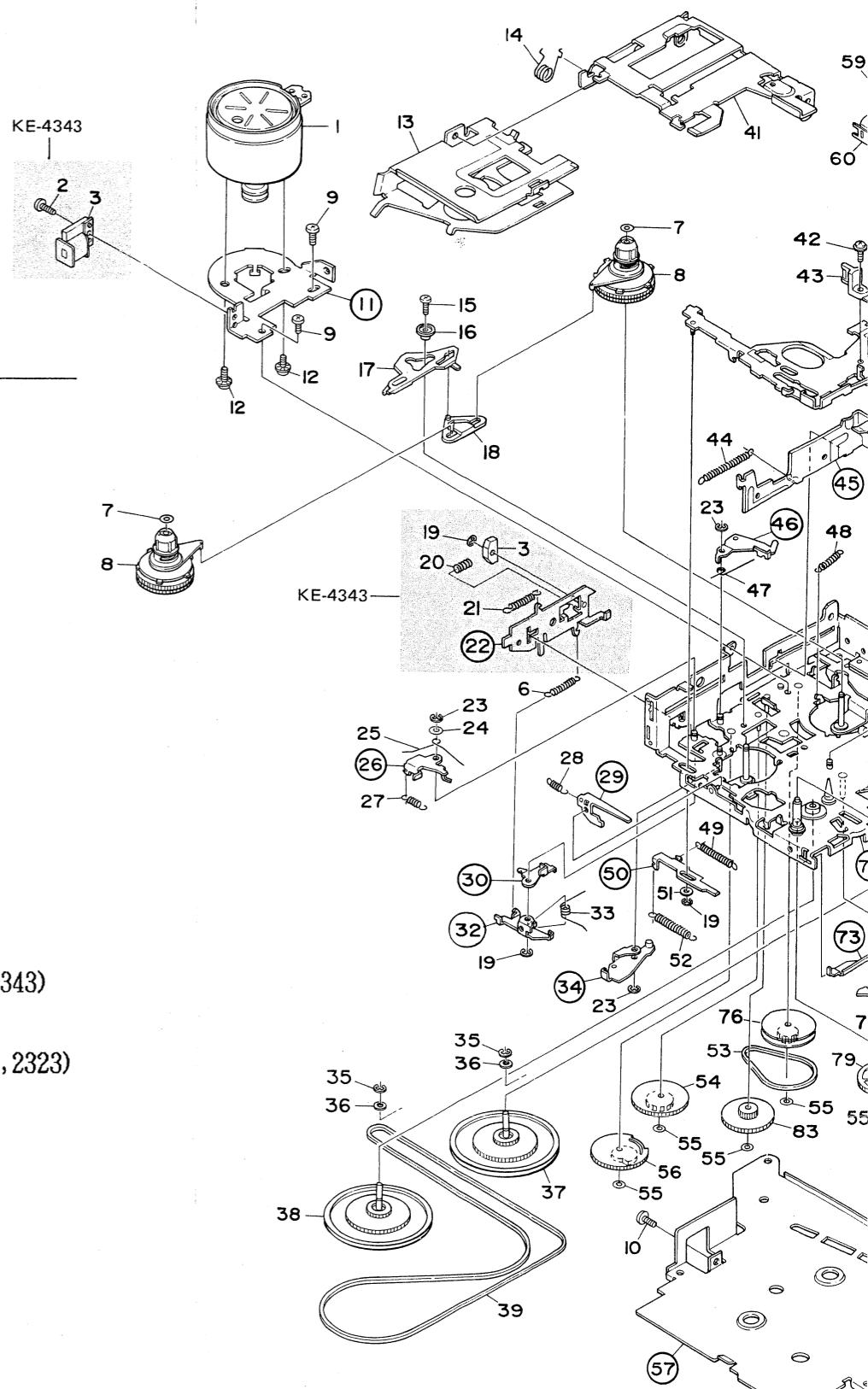
• Cassette Mechanism Assy

15. CASSETTE MECHANISM ASSY EXPLODED VIEW

● Parts List

Mark No.	Part No.	Description	Mark No.	Part No.	Description
★ 1	EXA1013	Motor Unit	41	EXA1014	Cassette Frame Unit
2	EBA1008	Screw(KE-4343)	42	PMS20P040FMC	Screw
★ 3	EXP1001	Solenoid(KE-4343)	43	ENV1016	Tape Guide
4,5	....		44	EBH1047	Spring
6	EBH1056	Spring(KE-4343)	45		Lever
	EBH1011	Spring(KE-3525, 3333, 2323)	46		Arm
★ 7	CBF-166	Washer	47	EBH1040	Spring
★ 8	EXA1012	Reel Unit	48	EBH1041	Spring
9	BMZ23P030FMC	Screw	49	EBH1021	Spring
10	BSZ23P040FMC	Screw	51	EBE1001	Lever
11	Bracket		52	EBH1009	Washer
12	PMS26P025FUC	Screw	★ 53	ENT1004	Spring
13	ENC1013	Cassette Holder	54	ENV1034	Belt
14	EBH1019	Spring	55	CBF-135	Gear
15	EBA1009	Screw	56	ENV1014	Washer
16	ELA1042	Collar	57		Head
17	ENV1032	Arm	58	EBA1011	Spring
18	ENV1031	Arm	59	BMZ20P050FMC	Cover
19	YE12FUC	Washer	★ 60	EPB1001	Screw
20	EBH1038	Spring(KE-4343)	61	CBH-198	Head
21	EBH1012	Spring(KE-4343)	62	ENP1003	Base Unit
22	Lever Unit(KE-4343)		63		Spring
23	YE15FUC	Washer	64	EXA1004	P.C. Board
24	CBF-165	Washer	65	EBH1004	Arm
25	EBH1049	Spring	66	EBH1003	Head Base Unit
26	Arm		67	CNY-265	Spring
27	EBH1037	Spring	68	YE20FUC	Cushion
28	EBH1039	Spring	★ 69	EXA1002	Washer
29	Arm		70		Roller Unit
30	....		71	EBF1004	Chassis Unit
31	Arm		72	ENV1009	Washer
32	Arm(KE-4343)		73		Pulley
	Arm(KE-3525, 3333, 2323)		74	EBH1025	Lever
			75	EBL1001	Spring
33	EBH1008	Spring(KE-4343)	76	ENV1010	Spring
	EBH1050	Spring(KE-3525, 3333, 2323)	77		Arm
34	Arm Unit		78	HBA-147	Screw
35	CBG1001	Washer	79	ENV1035	Arm
36	HBF-179	Washer	80	ELA1018	Gear
37	ENV1029	Flywheel(N)	81		Collar
38	ENV1030	Flywheel(R)	82		Arm
★ 39	ENT1003	Belt	83	ENV1011	Plug
40	....		84		Gear
			85	EBH1024	Arm
					Spring

A



D

*) Number 92 is part of the chassis unit
and cannot be removed.

1

2

3

4

5

6

• Cassette Mechanism Assy

A

Mark No.	Part No.	Description
86		Ratchet
87	EBH1018	Spring
★ 88	EXA1003	Roller Unit
89		Arm
90		Lever
91	EBH1013	Spring
92	*	
93	ENV1038	Gear
94	ELA1032	Collar
95	HBA-212	Screw
96	EBH1007	Spring
97	EBH1006	Spring
98	EBH1014	Spring
99	EBF1005	Washer
100		Arm Unit
101	ENV1018	Gear
102	ENV1017	Gear
103	EBH1022	Spring
104	EXA1005	Arm Unit
105		Plug (6P) (KE-4343)
106	EBA1010	Plug (5P) (KE-3525, 3333, 2323)
107	BMZ20P070FMC	Screw
108		Screw
109	EBH1016	Bracket
110		Spring
111	EBH1048	Lever Unit
112	EBH1005	Spring
113		Spring
114		Lever
115		Arm
116	WH23FMC	Washer

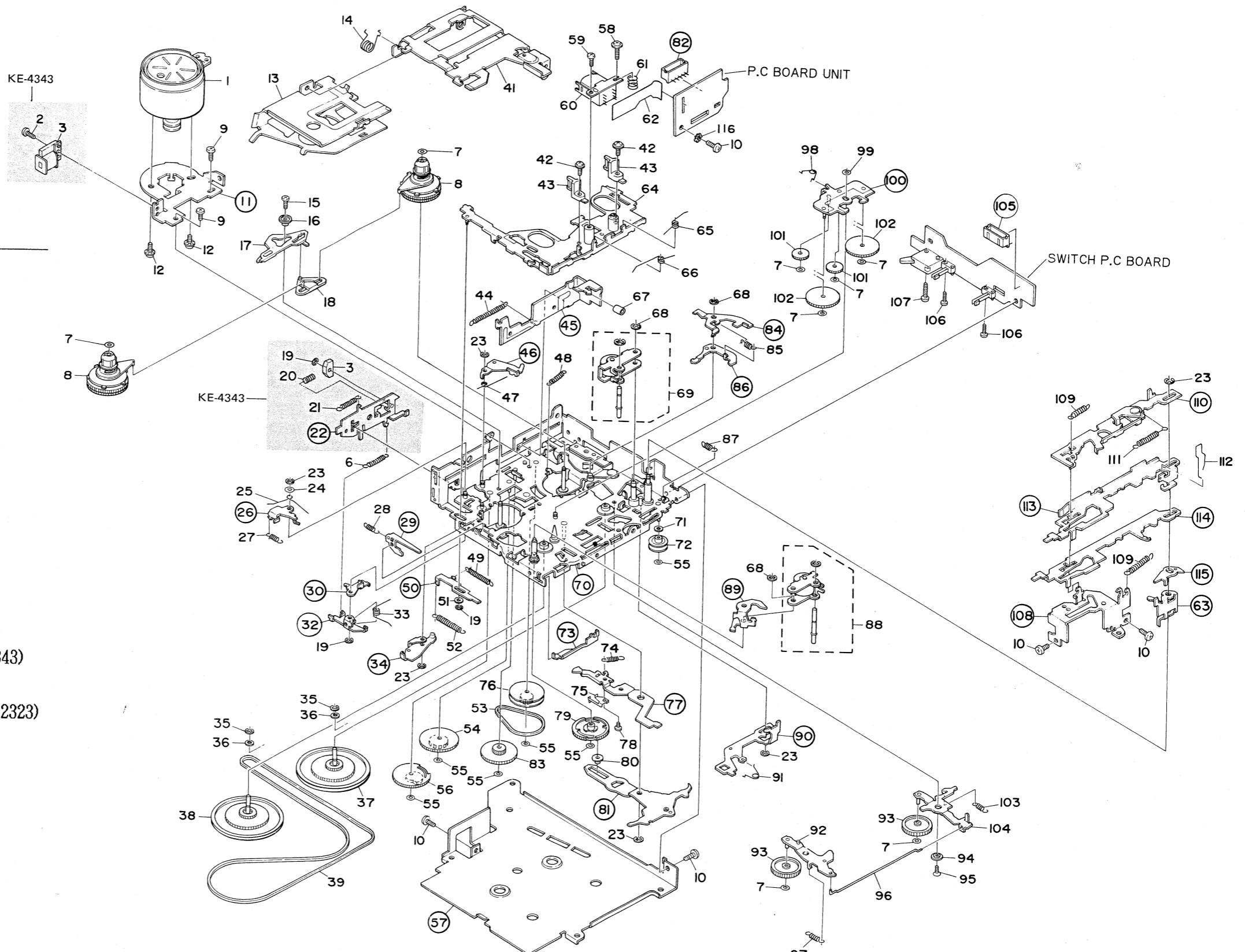


Fig. 13

*) Number 92 is part of the chassis unit
and cannot be removed.

16. ELECTRICAL PARTS LIST

NOTE:

- For your parts Stock Control, the fast moving items are indicated with the marks ** and †.
** : GENERALLY MOVES FASTER THAN †.
This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.'
 - Parts whose parts numbers are omitted are subject to being not supplied.
 - The part numbers shown below indicate chip components.

Chip Resistor
RS1/8S □□□J, RS1/10S □□□J
Chip Capacitor (except for CQS....)
CKS..... CCS..... CSZS....

Unit Number :

Unit Name : AM Unit

MISCELLANEOUS

CAPACITORS

Mark ===== Circuit Symbol & No. === Part Name Part No. Mark ===== Circuit Symbol & No. === Part Name Part No.

** IC 201	PA4010	C 201	209 223 231	CKSQYB103K50
** Q 201	2SK435	C 202	212 214	CKSQYB332K50
** Q 202	2SC2458	C 203	215 216 219	CKSQYF473Z50
(2SC1740S),		C 204	208 210	CKSQYB223K50
** Q 203 204 205	DTC124ES	C 205	213	CCSQCH220J50
* D 201 202 204 205	ISS176 (ISS133) (US1040M)	C 206	207	CCSQCH820J50
* D 203	Variable Capacitance Diode	SVC203-AB	C 220	CEA010M50LS2
L 201	Ferri-Inductor	CTF1026	C 221	CEA2R2M35NPLL
L 202	Ferri-Inductor	LAU220K	C 222	CSZA010K25
L 203	Ferri-Inductor	LAU470K	C 224 229	CEA470M16LS
L 204	Ferri-Inductor	CTF-157	C 225	CKSQYF333Z50
L 205	Ferri-Inductor	LAU4R7K	C 226	CKSYF683Z50
T 201	Coil	CTB1020	C 227	CEA4RTM35LS
T 202	Coil	CTB1004	C 228	CKSYB103K50
T 203	Coil	CTB1017	C 230	CEA220M16LS
T 204	Coil	CTE1013	C 232	CCSQCH220J50
T 205	Coil	CTE1014		
T 206	Coil	CTE1015		
CF 201	Filter	CTF1027		
CF 202	Filter	CTF-100		
X 201	Xtal Resonator	CSS1014		
** VR 201	Semi-fixed 4.7kΩ(B)	VRTB6VS472		
RESISTORS				
Mark ===== Circuit Symbol & No. === Part Name Part No.				
R 201	RD1/4PS220JL			
R 202	RD1/4PS681JL			
R 203	RD1/4PS222JL			
R 204	RS1/10S473J			
R 205	RS1/10S470J			
R 206	RS1/10S222J			
R 207	RS1/10S822J			
R 208 212 213 214	RS1/10S103J			
R 209	RS1/8S470J			
R 210	RS1/10S682J			
R 211	RS1/10S104J			
R 220	RS1/8SOR0J			
MISCELLANEOUS				
Mark ===== Circuit Symbol & No. === Part Name Part No.				
** IC 51				LA1140B
** IC 151				LA3430P
** IC 251				M51522AL
** IC 404				AN6540
** IC 451(KE-4343, KE-3525, KE-3333)				TA75558P

Mark =====	Circuit Symbol & No.	==== Part Name	Part No.	Unit Number :	
C 565			CQMA154J50	Unit Name :	Switch P.C.Board
C 612	4.7 μ F/16V		CCH1005		
C 614			CEA010M50LS2		
C 615			CEA221M10L2		
C 617			CEA101M50L2		
C 651			CEA100M16LS		
C 652			CEA330M16LS		
C 654			CEA470M16LS		
C 656			CEAR22M50LS2		

Unit Number :
Unit Name : MS Unit(KE-4343)

MISCELLANEOUS

Mark =====	Circuit Symbol & No.	==== Part Name	Part No.	Mark =====	Circuit Symbol & No.	==== Part Name	Part No.
** IC 401			PA0011	** HD 1		Head	EPB1001
** Q 401			2SC3311A	** M 1		Motor Unit	EXA1013
** Q 402			(2SC2458)	* SO 1	(KE-4343)	Solenoid	EXP1001
* D 401			DTC124ES				
			RD9R1ESB3				
			(MTZ9R1JC)				

RESISTORS

Mark =====	Circuit Symbol & No.	==== Part Name	Part No.
R 401 402 403			RD1/4PS103JL
R 404			RD1/4PS224JL
R 405			RD1/4PS104JL
R 406			RD1/4PS273JL
R 408			RD1/4PS472JL
R 409			RD1/4PS271JL

CAPACITORS

Mark =====	Circuit Symbol & No.	==== Part Name	Part No.
C 401 402			CGCYX103K25
C 403			CGCYX392K25
C 404 406			CEA010M50LL
C 405			CEA1R5M50LL
C 407			CEA220M10LL
C 408			CEA4R7M35LL
C 409			CEA100M16LL

Unit Number :
Unit Name : Key Board Unit

Mark =====	Circuit Symbol & No.	==== Part Name	Part No.
** IL 901 902 903	Lamp 14V 40mA		CEL1025
* D 517(KE-3525)	LED		SLR-320PG3KL
* D 518(KE-4343)	LED LCD		SLR-320VR3FKL CWW1054

17. PACKING METHOD

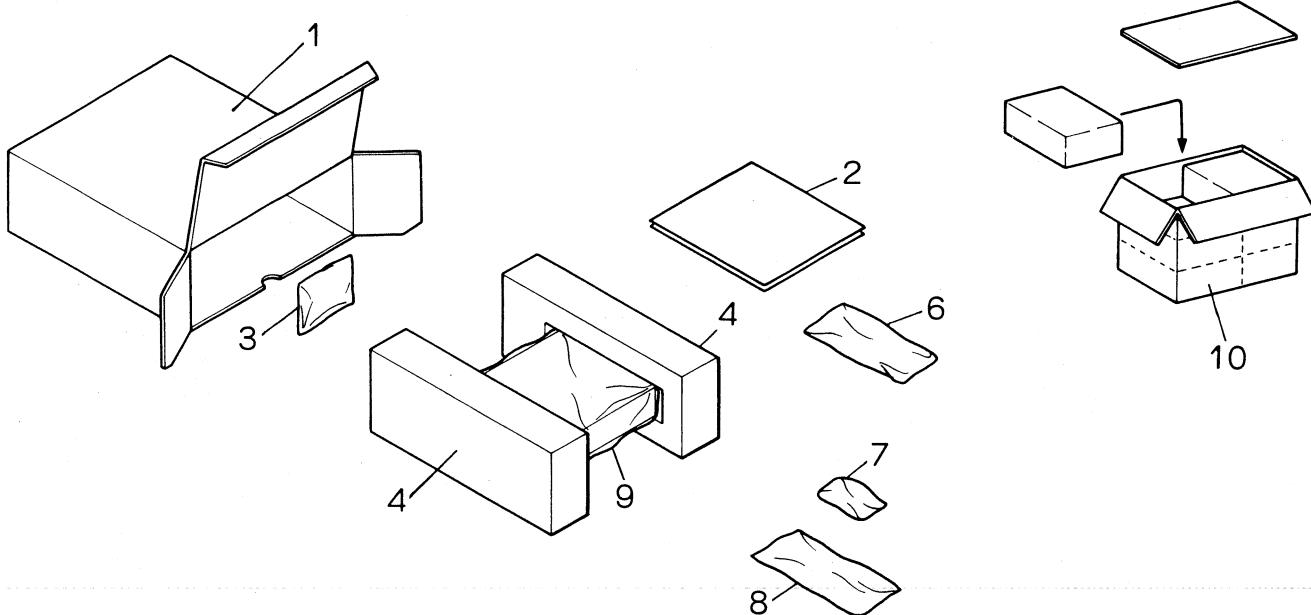


Fig. 14

● Parts List

<u>Mark</u>	<u>No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Mark</u>	<u>No.</u>	<u>Part No.</u>	<u>Description</u>
	1	CHG1409	Carton (KE-4343)		6-2	CNG-633	Plate
		CHG1428	Carton (KE-3525)		7	CDE1769	Cord Assy
		CHG1412	Carton (KE-3333)			CDE1770	(KE-4343, 3525, 3333)
		CHG1413	Carton (KE-2323)			CBA1313	Cord Assy (KE-2323)
	2	CRD1174	Owner's Manual (KE-4343, 3333, 2323)		8-1	CDE1289	Accessory Assy
		CRB1107	Owner's Manual (KE-3525)		8-2	CNF-111	Cord
			Card		8-3	CNV-769	Strap
			Caution Card		8-4	CBA-215	Washer
					8-4-1	WS40FMC	Screw Kit
	3	CXA1969	Knob Assy (KE-4343, 3333)		8-4-2	NF40FMC	Washer
		CXA1979	Knob Assy (KE-3525)		8-4-3	NF50FMC	Nut
		CXA1970	Knob Assy (KE-2323)		8-4-4	CBA-028	Nut
★	3-1	CAA1011	Knob (KE-4343, 3525, 3333)		8-4-5	CBN-028	Screw
★		CAA1109	Knob (KE-2323)		8-4-6	CND-646	Nut
★	3-2	CAA1054	Knob		8-4-7	PMB50Y160FMC	Spacer
★	3-3	CAA1113	Knob (KE-4343, 3333, 2323)		9	CEG-215	Screw
★		CAA1122	Knob (KE-3525)		10	CHL1409	Polyethylene Bag
	3-4	CNK-292	Cap			CHL1428	Contain Box (KE-4343)
	4	CHP1064	Styrofoam			CHL1412	Contain Box (KE-3525)
	5	.....				CHL1413	Contain Box (KE-3333)
	6	CXA1968	Panel Assy (KE-4343, 3525, 3333)				Contain Box (KE-2323)
		CXA1975	Panel Assy (KE-2323)				
	6-1		Panel (KE-4343, 3525, 3333)				
			Panel (KE-2323)				